HRS DOCUMENTATION RECORD--REVIEW COVER SHEET

Name of Site: Picayune Wood Treating
EPA ID No.: MSD065490930

Contact Persons

U.S. Environmental Protection Agency (U.S. EPA), Region 4:
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Site Inspection: Preliminary Assessment/Site Inspection, dated May 9, 2001, was completed by the Tetra Tech EM Inc. Superfund Technical Assessment and Response Team (START).

Documentation Record: Paul F. Moisan, CHMM, Project Manager
Tetra Tech EM Inc., START
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Pathways, Components, or Threats Not Scored

The soil exposure and air migration pathways were not scored for the Picayune Wood Treating (Picayune) because these pathways are not expected to significantly contribute to the overall site score. Although surface soil contamination has been identified throughout the facility property and adjacent properties (including a public park and some residential properties), this pathway would not add significantly to the overall site score. No air samples have been collected to document a release to ambient air.

HRS DOCUMENTATION RECORD

Name of Site: Picayune Wood Treating
EPA ID NO. MSD065490930

EPA Region: Region 4 Date Prepared: December 8, 2003

Street Address of Site: 403 Davis Street

City, County and State: Picayune, Pearl River County, Mississippi, 39466

General Location in the State: Southwestern Mississippi

Topographic Map: Picayune, Mississippi, 1985

Latitude: 30° 31' 28" North Longitude: 89° 41' 23" West

Because Source Number 1 consists of contaminated soil located throughout the entire facility property, the latitude and longitude coordinates were calculated from the center of the facility property (Refs. 3; 4).

Scores

Ground water Migration Pathway	20.39
Surface Water Migration Pathway	100.00
Soil Exposure Pathway	Not Scored
Air Migration Pathway	Not Scored

HRS SITE SCORE 51.03

WORKSHEET FOR COMPUTING HRS SITE SCORE

		S	S^2
1.	Ground water Migration Pathway Score (S_{gw}) (from Table 3-1, line 13)	20.39	415.75
2a.	Surface Water Overland/Flood Migration Component (from Table 4-1, line 30)	NS	NS
2b.	Ground water to Surface Water Migration Component (from Table 4-25, line 28)	NS	NS
2c.	Surface Water Migration Pathway Score (S_{sw}) (Enter the larger of lines 2a and 2b as the pathway score.)	100.00	10,000.00
3.	Soil Exposure Pathway Score (S_s) (from Table 5-1, line 22)	NS	NS
4.	Air Migration Pathway Score (S_a) (from Table 6-1, line 12)	NS	NS
5.	Total of $S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2$		10,415.75
6.	**HRS Site Score** (Divide the value on line 5 by 4 and take the square root)		51.03

S = Pathway Score
S^2 = Square of Pathway Score
NS = Not Scored

Site Name: Picayune Wood Treating
Location: Picayune, Pearl River County, Mississippi

GROUND WATER MIGRATION PATHWAY SCORESHEET - **Miocene Aquifer**

Factor Categories and Factors

	Likelihood of Release to an Aquifer	Maximum Value	Value Assigned	
1.	Observed Release	550	0	
2.	Potential to Release			
	2a. Containment	10	10	
	2b. Net Precipitation	10	6	
	2c. Depth to Aquifer	5	1	
	2d. Travel Time	35	1	
	2e. Potential to Release (lines 2a x [2b + 2c + 2d])	500	80	
3.	Likelihood of Release (higher of lines 1 and 2e)	550		80
	Waste Characteristics			
4.	Toxicity/Mobility	[a]	10,000	
5.	Hazardous Waste Quantity	[a]	100	
6.	Waste Characteristics	100		32
	Targets			
7.	Nearest Well	50	20	
8.	Population			
	8a. Level I Concentrations	[b]	0	
	8b. Level II Concentrations	[b]	0	
	8c. Potential Contamination	[b]	637	
	8d. Population (lines 8a + 8b + 8c)	[b]	637	
9.	Resources	5	0	
10.	Wellhead Protection Area	20	0	
11.	Targets (lines 7 + 8d + 9 + 10)	[b]		657
	Ground water Migration Score for an Aquifer			
12.	Aquifer Score ([lines 3 x 6 x 11]/82,500)[c]	100		20.39
	Ground water Migration Pathway Score			
13.	Ground water Migration Pathway Score (S_{gw})[c] (highest value from line 12 for all aquifers evaluated)	100	20.39	

[a] Maximum value applies to waste characteristics category.
[b] Maximum value not applicable.
[c] Not rounded to the nearest integer.

Site Name: Picayune Wood Treating
Location: Picayune, Pearl River County, Mississippi

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

Factor Categories and Factors		Maximum Value	Value Assigned	
DRINKING WATER THREAT				
	Likelihood of Release			
1.	Observed Release	550	550	
2.	Potential to Release by Overland Flow			
	2a. Containment	10	--	
	2b. Runoff	25	--	
	2c. Distance to Surface Water	25	--	
	2d. Potential to Release by Overland Flow (lines 2a x [2b + 2c])	500	--	
3.	Potential to Release by Flood			
	3a. Containment (Flood)	10	--	
	3b. Flood Frequency	50	--	
	3c. Potential to Release by Flood (lines 3a x 3b)	500	--	
4.	Potential to Release (lines 2d + 3c, subject to a maximum of 500)	500	--	
5.	Likelihood of Release (higher of lines 1 and 4)	550		550
	Waste Characteristics			
6.	Toxicity/Persistence	[a]	10,000	
7.	Hazardous Waste Quantity	[a]	100	
8.	Waste Characteristics	100		32
	Targets			
9.	Nearest Intake	50	0	
10.	Population			
	10a. Level I Concentrations	[b]	0	
	10b. Level II Concentrations	[b]	0	
	10c. Potential Contamination	[b]	0	
	10d. Population (lines 10a + 10b + 10c)	[b]	0	
11.	Resources	5	5	
12.	Targets (lines 9 + 10d + 11)	[b]		5

Site Name: Picayune Wood Treating
Location: Picayune, Pearl River County, Mississippi

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET, Continued

Factor Categories and Factors		Maximum Value	Value Assigned	
DRINKING WATER THREAT (Concluded)				
	Drinking Water Threat Score			
13.	Drinking Water Threat Score ([lines 5 x 8 x 12]/82,500, subject to a maximum of 100)	100		1.07
HUMAN FOOD CHAIN THREAT				
	Likelihood of Release			
14.	Likelihood of Release (value from line 5)	550		550
	Waste Characteristics			
15.	Toxicity/Persistence/Bioaccumulation	[a]	$5x10^8$	
16.	Hazardous Waste Quantity	[a]	100	
17.	Waste Characteristics	1,000		320
	Targets			
18.	Food Chain Individual	50	45	
19.	Population			
	19a. Level I Concentrations	[b]	0	
	19b. Level II Concentrations	[b]	0.03	
	19c. Potential Human Food Chain Contamination	[b]	0.000036	
	19d. Population (lines 19a + 19b + 19c)	[b]	0.030036	
20.	Targets (lines 18 + 19d)	[b]		45.030036
	Human Food Chain Threat Score			
21.	Human Food Chain Threat Score ([lines 14 x 17 x 20]/82,500, subject to a maximum of 100)	100		96.06
ENVIRONMENTAL THREAT				
	Likelihood of Release			
22.	Likelihood of Release (value from line 5)	550		550

Site Name: Picayune Wood Treating
Location: Picayune, Pearl River County, Mississippi

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET, Concluded

Factor Categories and Factors	Maximum Value	Value Assigned	
ENVIRONMENTAL THREAT (Concluded)			
Waste Characteristics			
23. Ecosystem Toxicity/Persistence/ Bioaccumulation	[a]	$5x10^8$	
24. Hazardous Waste Quantity	[a]	100	
25. Waste Characteristics	1,000		320
Targets			
26. Sensitive Environments			
26a. Level I Concentrations	[b]	0	
26b. Level II Concentrations	[b]	50	
26c. Potential Contamination	[b]	0.115	
26d. Sensitive Environments (lines 26a + 26b + 26c)	[b]	50	
27. Targets (value from line 26d)	[b]		50.115
Environmental Threat Score			
28. Environmental Threat Score ([lines 22 x 25 x 27]/82,500, subject to a maximum of 60)	60		60
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE FOR A WATERSHED			
29. Watershed Score[c] (lines 13 + 21 + 28, subject to a maximum of 100)	100		100
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE			
30. Component Score (S_{of})[c] (highest score from line 29 for all watersheds evaluated, subject to a maximum of 100)	100		100

[a] Maximum value applies to waste characteristics category.
[b] Maximum value not applicable.
[c] Not rounded to the nearest integer.
-- Not evaluated.

A copy of *Figure 1* is available at the EPA Headquarters Superfund Docket:

Public Reading Room, Room B102
EPA West Building
1301 Constitution Avenue, NW
Washington DC 20460

Telephone: (202) 566-1744
E-Mail: superfund.docket@epa.gov

A copy of *Figure 2* is available at the EPA Headquarters Superfund Docket:

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1301 Constitution Avenue, NW
Washington DC 20460

Telephone: (202) 566-1744
E-Mail: superfund.docket@epa.gov

A copy of *Figure 3* is available at the EPA Headquarters Superfund Docket:

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1301 Constitution Avenue, NW
Washington DC 20460

Telephone: (202) 566-1744
E-Mail: superfund.docket@epa.gov

A copy of *Figure 4* is available at the EPA Headquarters Superfund Docket:

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Washington DC 20460

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E-Mail: superfund.docket@epa.gov

A copy of *Figure 5* is available at the EPA Headquarters Superfund Docket:

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1301 Constitution Avenue, NW
Washington DC 20460

Telephone: (202) 566-1744
E-Mail: superfund.docket@epa.gov

A copy of *Figure 6* is available at the EPA Headquarters Superfund Docket:

Public Reading Room, Room B102
EPA West Building
1301 Constitution Avenue, NW
Washington DC 20460

Telephone: (202) 566-1744
E-Mail: superfund.docket@epa.gov

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Site Description

Picayune Wood Treating (Picayune), EPA ID No. MSD065490930, is located at 403 Davis Street in Picayune, Pearl River County, Mississippi (Ref. 14, p. 1, Section 2, p. 1). The facility is bounded on the north by a residential, commercial, and industrial area (Ref. 3). The facility is bounded on the east by a commercial and industrial area; on the south by a public park, daycare center, and residences; and on the west by Southside Elementary School and residences (Refs. 3; 15, p. 20). The facility was once comprised of a two-story office building, a storage trailer, approximately 9 buildings, 3 pressure tanks, 27 storage tanks or vats, 3 tanker trailers, and several pieces of heavy equipment for moving logs. Most of these structures have been removed from the facility property (Ref. 38, p. 2).

The facility may have been constructed prior to 1917, and was reportedly known as R.J. Williams Rosa Lumber Company (Ref. 43, p. 1). In 1917, Mr. Lucius Crosby, along with the International Harvester Company, bought this property (Ref. 43, p. 1). Information indicates that after this property transaction, the facility became known as the Goodyear Yellow Pine Company (Ref. 43, p. 1). Operations at the facility were expanded during 1918 (Ref. 43, p. 1). The facility at this time was owned by Mr. Crosby, Lamont Rowlands, and C.A. Goodyear (Ref. 43, p. 1). Mr. Crosby bought control from the Goodyear family in 1920, and from Mr. Rowland in 1929 (Ref. 43, p. 1).

It is unclear when the facility name changed to Crosby Forest Products (Crosby); however, the name change appears to have occurred at some time between 1946 and 1950 (Ref. 5, p. 2; 16, Volume 1, p. 2; 43, p. 1). Very little is known about Crosby; however, historical information indicates that in 1951 the company owned the entire existing property in addition to the property east of Davis Street, where the abandoned “Interpine” facility is now located (Refs. 38, p. 2; 44, pp. 3, 4). Additionally, during 1951, residences were located on the northern side of Rosa Street and south of the facility and Mill Creek, in the vicinity of what is now George Washington Carver Park (Refs. 38, p. 11; 44, pp. 3, 4). On the facility property, Crosby operated a creosote plant, saw mill, veneer mill, tung oil mill, and box factory (Refs. 43, p. 1; 44, p. 3). The veneer mill was added in 1947 (Ref. 43, p. 1). The wirebound box plant was added in 1946 and was sold during the 1960s (Ref. 43, p. 1).

Several abandoned industrial buildings are located on the property adjacent to and south of the facility property (Ref. 38, p. 2).

A former cooling water pond that has been backfilled is located on the northern portion of the property, along with a group of biostorage tanks (Ref. 22, p. 7). Additionally, a trench, burial area (three surface impoundments), and a copper-chromium arsenate (CCA) facility are located on the western portion of the facility property (Ref. 22, p. 7).

The property has five drainage ditches, the northernmost of which flows from the northern portion of the property southeast into Mill Creek (Ref. 37, p. 7). The second drainage ditch flows east from the former pressure tank area, intersects the first drainage ditch, and subsequently flows into Mill Creek (Refs. 15, p. 15; 16, Volume 1, p. 27). The third drainage ditch originates south of the central processing area and flows south into Mill Creek. The fourth drainage ditch is located near the facility office; the flow intersects the third drainage ditch and continues south into Mill Creek. The fifth drainage ditch is located on the western portion of the facility property and flows west into the trench impoundment area (Ref. 14, Section 2, pp. 6, 7).

The soils on the property consist of Escambia fine sandy loam, on the eastern portion, and Smithton sandy loam on the west (Ref. 9, General Soil Map, plate 61). The Escambia fine sandy loam, 0 to 2 percent slopes, is nearly level and somewhat poorly drained (Ref. 9, pp. 18, 19, 63, 119). Runoff is slow, and permeability is moderate (Ref. 9, pp. 18, 19). Wetness and slow permeability are the major limitations of this soil type (Ref. 9, p. 19). The Smithton sandy loam is also nearly level and poorly drained (Ref. 9, pp. 5, 32). This soil type is flooded for extended periods of time during the year (Ref. 9, p. 120). Because of wetness and flooding, use of this soil is severely limited (Ref. 9, p. 120).

The facility property is about 29.1 acres in area; since at least 1946 it was used for wood treating, tung oil extraction, veneer milling, and box manufacturing. Wood processing at this facility involved two phases: a conditioning cycle followed by an impregnation cycle (Ref. 16, Volume 1, pp. 2, 3). The conditioning cycle removed sufficient natural moisture and saps to allow injection of the preservative chemical in a specified quantity (Ref. 16, Volume 1, pp. 2, 3). The facility employed a steam-vacuum cycle for wood preserving. In this cycle, the wood to be preserved was placed in the pressure impregnation retort and heated to 245 degrees Farenheight (°F) by saturated steam for a period of 10 to 16 hours (Ref. 16, Volume 1, p. 3). Condensate, contaminated with residual preservative from the retort and sap extractives from the wood, was continuously bled from the retort (Ref. 16, Volume 1, p. 3). At the end of the steaming period, the retort was vented to the atmosphere and a vacuum pressure of at least 23 inches of mercury was applied as rapidly as possible for 2 to 3 hours (Ref. 16, Volume 1, p. 3).

Prior to 1985, a direct-contact barometric condenser was used to remove any condensable vapors (Ref. 16, Volume 1, p. 3). The cooling water used to collect condensable organic vapors that left the retort during the vacuum phase was stored in an unlined cooling water surface impoundment constructed in 1946 (Ref. 16, Volume 1, p. 3). In 1985, the process was modified to replace the barometric condenser with a surface condenser (Ref. 16, Volume 1, p. 3). As a result, the large volume of direct-contact cooling water was replaced by a small volume of noncontact cooling water stored in a tank (Ref. 16, Volume 1, p. 3). Eventually, the condensable vapors were collected in a condensate tank and pumped to the wastewater treatment system (Ref. 16, Volume 1, p. 3).

Both the steaming cycle wastewater stream and the condensed vapors were contaminated wastewaters. The wastewater treatment process generated a sludge classified as K001: bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote or pentachlorophenol (Refs. 16, Volume 1, p. 1; 52, p. 267). Five surface impoundments (three trenches, one cooling pond, and one waste pit) were used at various points during the site's history for storing and disposing of the K001 waste and its associated cooling water (Refs. 14, p. 2; 16, Volume 1, p. 1; 19, pp. 18, 23, 46). The total surface area for these impoundments is approximately 32,000 square feet (Ref. 14, p. 2). In the 1980s, Resource Conservation and Recovery Act (RCRA) closures for these areas consisted of removing pumpable sludge and solidifying the remaining material in place (Ref. 16, Volume 1, p. 5). An impermeable cap was placed over these areas (Ref. 16, Volume 1, p. 5). Prior to 1972, no pretreatment was employed, and all process wastewater was managed in the cooling pond. Sludges produced through treatment were disposed of in the surface impoundments (Ref. 16, Volume 1, p. 4).

On August 18, 1980, Wood Treating, Inc., submitted a Notification of Hazardous Waste Activity to EPA, identifying the facility as a generator of K001 hazardous wastes. The notification also indicated that Wood Treating, Inc., was engaged in the storage of K001 hazardous waste in tanks. K001 hazardous

waste is a bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote or pentachlorophenol.

In November 1999, the Agency for Toxic Substances and Disease Registry (ATSDR) prepared a Health Consultation report for Wood Treating, Inc. The report was prepared by the Petition Response Section, Exposure Investigation and Consultation Branch, Division of Health Assessment and Consultation. The report summarized the results of sediment samples collected from the facility. In addition, the report stated that access to the facility and Mill Creek should be restricted until further sampling could be conducted to evaluate the nature and extent of the contamination (Ref. 49).

On November 30, 1999, the RCRA Enforcement and Compliance Branch (RECB) issued an Emergency Administrative Order pursuant to Section 7003(a) of RCRA, as amended 42 USC § 6973 (a) (Ref. 5). However, because of financial limitations, Wood Treating, Inc., was unable to comply with the Emergency Administrative Order, which required the facility to address the imminent and substantial endangerment posed by the facility to human health and the environment (Ref. 50). Therefore, RECB referred the facility to the CERCLA Emergency Response and Removal Branch (ERRB) (Ref. 50).

SOURCE DESCRIPTION

2.2 SOURCE CHARACTERIZATION

Number of the source: 1

Name and description of the source: Contaminated soil

HRS Source Type: Contaminated soil

During a RCRA facility assessment (RFA) site visit conducted in 1988, treated lumber was noted to be stored directly on the surface soil until the lumber was purchased (Ref. 19, p. 6). Treated lumber was noted to be "bleeding" directly onto the ground after the treatment process (Ref. 19, p. 32). Standing creosote in addition to stained soils were also noted during the RFA (Ref. 19, p. 20).

During a compliance evaluation inspection (CEI) conducted by the Mississippi Department of Environment Quality (MDEQ) in September 1995, inspectors noted that the facility did not have drip pads (Ref. 6, p. 2). Contamination was observed in these storage areas (Ref. 6, p. 2). Preservative drippage also was found in the product storage areas (Ref. 6, pp. 2, 4).

Drip pads were still not present during September and October 1998 RCRA inspections of the facility (Ref. 7, p. 4).

Soils in the vicinity of the storage tanks and work tanks were noted to be covered in sludges of a thickness of up to one foot or more (Ref. 5, p. 5). Soils in the vicinity of the outdoor pressure treatment process area were also covered in creosote sludges (Ref. 5, p. 7).

Creosote sludges have also been noted in the vicinity of the storage tanks (Ref. 15, p. 6). During field sampling activities conducted by EPA in support of a preliminary assessment/site inspection (PA/SI) in 2000, stained soils were also noted in the vicinity of the central processing area (Ref. 11, pp. 1, 2).

EPA conducted another field sampling event in November 2002. Again, during this sampling event, stained soils were noted throughout the facility property (Ref. 37, pp. 7, 8).

Location of the source, with reference to a map of the site:

Source No. 1, contaminated soil, is located throughout the facility property (Refs. 8, Appendix A; 42). Also see Figure 2 of this HRS documentation record.

Containment

Release to ground water: No liner system is in place beneath the contaminated soil to prevent releases to ground water. This information, applied to Table 3-2 in Reference 1, yields a containment value of 10.

On September 8, 1998, and again on October 1, 1998, the MDEQ conducted a CEI of the facility and determined that the facility did not have a drip pad for creosote treatment; multiple areas of excess drippage and stained soils were noted (Refs. 5, p. 7; 6, p. 2; 7, p. 4). The file information does not indicate whether a liner was present to prevent contamination from reaching the ground water.

Containment value: 10

Reference: 1, Table 3-2, Section 3.1.2.1

Release via overland migration and/or flood:

Surface water runoff from Source 1 is discharged into a series of drainage ditches located throughout the facility property (Ref. 16, Volume 1, p. 27). These drainage ditches discharge into Mill Creek (Refs. 3; 16, Volume 1, p. 27). During the RFA, it was noted that excess wood preservative was dripping onto the surface soils in areas of surface water drainage (Ref. 19, p. 32). There is no known cover or liner present to prevent runoff from Source 1.

Containment value: 10

Reference: 1, Section 4.1.2.1.2.1.1, Table 4-2

2.4.1 Hazardous Substances

The soil samples listed in the table below were collected from the facility during the 2000 preliminary assessment/site inspection (PA/SI) conducted by the Tetra Tech EM Inc. Superfund Technical Assessment and Response Team (START). Sediment samples listed in the table below were collected from drainage ditches leading off the facility property (Ref. 8, p. 20; 11, p. 15; 15, pp. 25, 27, 28). All sampling activities were conducted in accordance with the EPA Science and Ecosystem Support Division (SESD) Region 4 "Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (EISOPQAM) (May 1996) (Refs. 8, p. 10; 15, p. 24). Sampling locations are shown on Figure 3.

Analytical data sheets are provided in Reference 8, Appendix A; all samples were analyzed by an EPA Contract Laboratory Program (CLP) laboratory (Ref. 8, Appendix A). Data validation was conducted by EPA Region 4, Science and Ecosystem Support Division (SESD); quality assurance and quality control (QA/QC) information is provided in Reference 8, Appendix A. For inorganic hazardous substances, contract-required detection limits (CRDL) are provided, and for organic substances, contract-required quantitation limits (CRQL) are provided. The CRDLs and CRQLs are listed in Reference 10.

Surface and subsurface soil samples collected during the PA/SI were compared to background soil samples. Background surface soil (PW-01-SS) and subsurface soil (PW-01-SB) samples were collected from a park located approximately 1,800 feet west of the facility property (Refs. 8, pp. 12, 13, 15; 15, pp. 40, 41). Background sample data can be found in Reference 8, Appendix A, pages 27, 72, 233, 255, 331, 341, 385, and Reference 10, pages 2 through 5, 7, 9, 12.

Most of the soil at the facility property and site vicinity where Source 1 samples were collected is Escambia fine sandy loam, which is characterized as being nearly level and somewhat poorly drained (Ref. 9, p. 18, General Soil Map, Sheet 61). The northern portion of the facility property includes the soil type Smithton sandy loam, which is also characterized as nearly level, poorly drained soil on stream terraces and in drainageways (Ref. 9, p. 32, General Soil Map, Sheet 61).

Sample Number (Depth bgs)	Hazardous Substance (Concentration)	Background Concentration	*CRDL/ CRQL/ **PQL	Reference(s)
PW-02-SD (0 - 6 inches)	Phenanthrene (4,900 µg/kg) Fluoranthene (13,000 µg/kg) Pyrene (17,000 µg/kg) Benzo(a)anthracene (11,000 µg/kg) Chrysene (18,000 µg/kg) Benzo(b)fluoranthene (21,000 µg/kg) Benzo(k)fluoranthene (13,000 µg/kg) Benzo(a)pyrene (13,000 µg/kg)	440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg	330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg	8, Table 20, Appendix A, pp. 27, 152; 10, pp. 4, 5, 9; 15, pp. 27, 28
PW-09-SD (ND)	Fluoranthene (8,500 µg/kg) Pyrene (9,600 µg/kg) Benzo(a)anthracene (4,800 µg/kg) Benzo(b)fluoranthene (11,000 µg/kg) Benzo(k)fluoranthene (5,900 µg/kg) Benzo(a)pyrene (6,500 µg/kg) Indeno(1,2,3-cd)pyrene (6,400 µg/kg) Benzo(ghi)perylene (6,600 µg/kg)	440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440UJ µg/kg	330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg	8, Table 20, Appendix A, pp. 27, 162; 10, pp. 4, 5, 9; 15, p. 26

Sample Number (Depth bgs)	Hazardous Substance (Concentration)	Background Concentration	*CRDL/ CRQL/ **PQL	Reference(s)
PW-09D-SD (ND)	Fluoranthene (8,800 µg/kg) Pyrene (9,700 µg/kg) Benzo(b)fluoranthene (14,000 µg/kg) Benzo(k)fluoranthene (7,900 µg/kg) Benzo(a)pyrene (8,400 µg/kg) Indeno(1,2,3-cd)pyrene (8,500 µg/kg) Benzo(ghi)perylene (8,600 µg/kg)	440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440UJ µg/kg	330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg	8, Appendix A, pp. 27, 164; 10, pp. 5, 9; 15, p. 26
PW-05-SB (1 - 2 feet)	Phenanthrene (530 µg/kg) Fluoranthene (860 µg/kg) Pyrene (670 µg/kg) Chrysene (460 µg/kg) Benzo(k)fluoranthene (400 µg/kg) Benzo(a)pyrene (410 µg/kg)	390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg	330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg	8, Appendix A, pp. 72, 78; 10, pp. 4, 5, 7, 9; 11, p. 5
PW-09-SS (ND)	Fluoranthene (130,000 µg/kg) Pyrene (190,000 µg/kg) Benzo(a)anthracene (43,000 µg/kg) Chrysene (95,000 µg/kg) Benzo(b)fluoranthene (87,000 µg/kg) Benzo(k)fluoranthene (76,000 µg/kg) Benzo(a)pyrene (55,000 µg/kg) 2,3,7,8-TCDD (18 ng/kg) TCDD (Total)(2,300J ng/kg) 1,2,3,7,8-PeCDD (210 ng/kg) PeCDD (Total)(13,000J ng/kg) 1,2,3,4,7,8-HxCDD (1,300J ng/kg) 1,2,3,6,7,8-HxCDD (1,900J ng/kg) HxCDD (Total) (68,000J ng/kg) 1,2,3,4,6,7,8-HpCDD (47,000 ng/kg) HpCDD (Total) (230,000J ng/kg) OCDD (110,000J ng/kg) TCDF (Total) (140J ng/kg) 2,3,4,7,8-PeCDF (840 ng/kg) PeCDF (Total) (1,200J ng/kg) 1,2,3,6,7,8-HxCDF (170J ng/kg) 1,2,3,7,8,9-HxCDF (15 ng/kg) 2,3,4,6,7,8-HxCDF (310 ng/kg) HxCDF (Total) (10,000J ng/kg) 1,2,3,4,6,7,8-HpCDF (6,800J ng/kg) 1,2,3,4,7,8,9-HpCDF (960 ng/kg) HpCDF (Total) (46,000J ng/kg) OCDF (7,100J ng/kg)	440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 1.9U ng/kg 1.9UJ ng/kg 4.9U ng/kg 4.9UJ ng/kg 2.7J ng/kg 4.5J ng/kg 58J ng/kg 180 ng/kg 550J ng/kg 2,200J ng/kg 4.8J ng/kg 1.9J ng/kg 16J ng/kg 3.5J ng/kg 4.9U ng/kg 2.5J ng/kg 33J ng/kg 54 ng/kg 4.1 ng/kg 150J ng/kg 97J ng/kg	330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 2 ng/kg 2 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 10 ng/kg 2 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 10 ng/kg	8, Appendix A, pp. 27, 41, 331, 334; 10, pp. 4, 5, 7, 9; 12

Sample Number (Depth bgs)	Hazardous Substance (Concentration)	Background Concentration	*CRDL/ CRQL/ **PQL	Reference(s)
PW-09-SB (3 feet)	Toluene (57 µg/kg) Ethyl benzene (45 µg/kg) Total xylenes (200 µg/kg) Styrene (40 µg/kg) Naphthalene (41,000 µg/kg) 2-Methylnaphthalene (54,000 µg/kg) 1,1-Biphenyl (19,000 µg/kg) Acenaphthene (110,000 µg/kg) Dibenzofuran (84,000 µg/kg) Fluorene (100,000 µg/kg) Phenanthrene (240,000 µg/kg) Anthracene (34,000 µg/kg) Carbazole (17,000 µg/kg) Fluoranthene (120,000 µg/kg) Pyrene (83,000 µg/kg) Benzo(a)anthracene (18,000 µg/kg) Chrysene (20,000 µg/kg)	11U µg/kg 11U µg/kg 11U µg/kg 11U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg	10 µg/kg 10 µg/kg 10 µg/kg 10 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg	8, Appendix A, pp. 72, 86, 255, 385, 398; 10, pp. 2, 3, 4, 5; 13, p. 2
PW-10-SS (ND)	Fluoranthene (76,000 µg/kg) Pyrene (150,000 µg/kg) Benzo(a)anthracene (31,000 µg/kg) Chrysene (77,000 µg/kg) Benzo(b)fluoranthene (99,000 µg/kg) Benzo(k)fluoranthene (57,000 µg/kg) Benzo(a)pyrene (46,000 µg/kg)	440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg	330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg	8, Appendix A, pp. 27, 43; 10, pp. 5, 7, 9; 11, p. 2
PW-10-SB (3 feet)	Acenaphthene (560 µg/kg) Dibenzofuran (480 µg/kg) Fluorene (740 µg/kg) Phenanthrene (2,400 µg/kg) Anthracene (420 µg/kg) Fluoranthene (1,900 µg/kg) Pyrene (1,300 µg/kg)	390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg	330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg	8, Appendix A, pp. 72, 88; 10, pp. 4, 5; 11, p. 3
PW-11-SS (ND)	Fluoranthene (18,000 µg/kg) Pyrene (51,000 µg/kg) Benzo(a)anthracene (10,000 µg/kg) Chrysene (30,000 µg/kg) Benzo(b)fluoranthene (39,000 µg/kg) Benzo(k)fluoranthene (29,000 µg/kg) Benzo(a)pyrene (27,000 µg/kg)	440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg	330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg	8, Appendix A, pp. 27, 45; 10, pp. 5, 7, 9

Sample Number (Depth bgs)	Hazardous Substance (Concentration)	Background Concentration	*CRDL/ CRQL/ **PQL	Reference(s)
PW-12-SS (0 - 6 inches)	2,3,7,8-TCDD (10 ng/kg) TCDD (Total) (760J ng/kg) 1,2,3,7,8-PeCDD (110 ng/kg) PeCDD (Total) (4,200J ng/kg) 1,2,3,4,7,8-HxCDD (700J ng/kg) 1,2,3,6,7,8-HxCDD (2,600J ng/kg) HxCDD (Total) (31,000J ng/kg) 1,2,3,4,6,7,8-HpCDD (19,000 ng/kg) HpCDD (Total) (170,000J ng/kg) OCDD (58,000J ng/kg) TCDF (Total) (90J ng/kg) 2,3,4,7,8-PeCDF (84 ng/kg) PeCDF (Total) (1,500J ng/kg) 1,2,3,6,7,8-HxCDF (280J ng/kg) 1,2,3,7,8,9-HxCDF (34 ng/kg) 2,3,4,6,7,8-HxCDF (590J ng/kg) HxCDF (Total) (17,000J ng/kg) 1,2,3,4,6,7,8-HpCDF (12,000J ng/kg) 1,2,3,4,7,8,9-HpCDF (1,500J ng/kg) HpCDF (Total) (65,000J ng/kg) OCDF (16,000J ng/kg)	1.9U ng/kg 1.9UJ ng/kg 4.9U ng/kg 4.9UJ ng/kg 2.7J ng/kg 4.5J ng/kg 58J ng/kg 180 ng/kg 550J ng/kg 2,200J ng/kg 4.8J ng/kg 1.9J ng/kg 16J ng/kg 3.5J ng/kg 4.9U ng/kg 2.5J ng/kg 33J ng/kg 54 ng/kg 4.1 ng/kg 150J ng/kg 97J ng/kg	2 ng/kg 2 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 10 ng/kg 2 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 5 ng/kg 10 ng/kg	8, Appendix A, pp. 331, 335; 10, pp. 7, 9; 12; 13, p. 3
PW-12-SB (3 feet)	Phenanthrene (560 µg/kg) Fluoranthene (1,500 µg/kg) Pyrene (1,400 µg/kg) Chrysene (580 µg/kg) Benzo(b)fluoranthene (470 µg/kg)	390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg 390U µg/kg	330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg	8, Appendix A, pp. 72, 90; 10, pp. 4, 5, 7, 9; 13, p. 3
PW-13-SS (0 - 6 inches)	Fluoranthene (5,300 µg/kg) Pyrene (4,900 µg/kg) Benzo(a)anthracene (2,300 µg/kg) Chrysene (3,100 µg/kg) Benzo(b)fluoranthene (2,700 µg/kg) Benzo(k)fluoranthene (2,500 µg/kg) Benzo(a)pyrene (1,900 µg/kg)	440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg 440U µg/kg	330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg	8, Appendix A, pp. 27, 49; 10, pp. 5, 7, 9; 13, p. 4

Sample Number (Depth bgs)	Hazardous Substance (Concentration)	Background Concentration	*CRDL/ CRQL/ **PQL	Reference(s)
PW-15-SS (0 - 6 inches)	Phenanthrene (35,000 µg/kg)	440U µg/kg	330 µg/kg	8, Appendix A, pp. 27, 52, 331, 336; 10, pp. 4, 5, 7, 9; 12; 13, p. 2
	Fluoranthene (980,000 µg/kg)	440U µg/kg	330 µg/kg	
	Anthracene (72,000 µg/kg)	440U µg/kg	330 µg/kg	
	Pyrene (860,000 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(a)anthracene (170,000 µg/kg)	440U µg/kg	330 µg/kg	
	Chrysene (360,000 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(b)fluoranthene (270,000 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(k)fluoranthene (130,000 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(a)pyrene (120,000 µg/kg)	440U µg/kg	330 µg/kg	
	Indeno(1,2,3-cd)pyrene (67,000 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(ghi)perylene (54,000 µg/kg)	440UJ µg/kg	330 µg/kg	
	2,3,7,8-TCDD (13 ng/kg)	1.9U ng/kg	2 ng/kg	
	TCDD (Total) (1,600J ng/kg)	1.9UJ ng/kg	2 ng/kg	
	1,2,3,7,8-PeCDD (120 ng/kg)	4.9U ng/kg	2 ng/kg	
	PeCDD (Total) (6,500J ng/kg)	4.9UJ ng/kg	5 ng/kg	
	1,2,3,4,7,8-HxCDD (950J ng/kg)	2.7J ng/kg	5 ng/kg	
	1,2,3,6,7,8-HxCDD (1,400J ng/kg)	4.5J ng/kg	5 ng/kg	
	1,2,3,7,8,9-HxCDD (2,500 ng/kg)	4.4 ng/kg	5 ng/kg	
	HxCDD (Total) (49,000J ng/kg)	58J ng/kg	5 ng/kg	
	1,2,3,4,6,7,8-HpCDD (42,000 ng/kg)	180 ng/kg	5 ng/kg	
	HpCDD (Total) (200,000J ng/kg)	550J ng/kg	5 ng/kg	
	OCDD (59,000J ng/kg)	2,200J ng/kg	10 ng/kg	
	TCDF (Total) (100J ng/kg)	4.8J ng/kg	2 ng/kg	
	2,3,4,7,8-PeCDF (49 ng/kg)	1.9J ng/kg	5 ng/kg	
	PeCDF (Total) (870J ng/kg)	16J ng/kg	5 ng/kg	
	1,2,3,6,7,8-HxCDF (120J ng/kg)	3.5J ng/kg	5 ng/kg	
	HxCDF (Total) (7,700J ng/kg)	33J ng/kg	5 ng/kg	
	1,2,3,4,6,7,8-HpCDF (5,500 ng/kg)	54 ng/kg	5 ng/kg	
	1,2,3,4,7,8,9-HpCDF (750 ng/kg)	4.1 ng/kg	5 ng/kg	
	HpCDF (Total) (38,000J ng/kg)	150J ng/kg	5 ng/kg	
	OCDF (92,000J ng/kg)	97J ng/kg	10 ng/kg	
PW-15-SB (2.5 feet)	Benzene (130 µg/kg)	11U µg/kg	10 µg/kg	8, Appendix A, pp. 72, 94, 255, 385, 406; 10, pp. 3, 4, 5, 7, 9; 13, p. 2
	Toluene (270 µg/kg)	11U µg/kg	10 µg/kg	
	Ethyl benzene (180 µg/kg)	11U µg/kg	10 µg/kg	
	Total xylenes (590 µg/kg)	11U µg/kg	10 µg/kg	
	Styrene (83 µg/kg)	11U µg/kg	10 µg/kg	
	Naphthalene (60,000 µg/kg)	390U µg/kg	330 µg/kg	
	2-Methylnaphthalene (44,000 µg/kg)	390U µg/kg	330 µg/kg	
	1,1-Biphenyl (17,000 µg/kg)	390U µg/kg	330 µg/kg	
	Acenaphthene (78,000 µg/kg)	390U µg/kg	330 µg/kg	
	Dibenzofuran (65,000 µg/kg)	390U µg/kg	330 µg/kg	
	Fluorene (82,000 µg/kg)	390U µg/kg	330 µg/kg	
	Phenanthrene (280,000 µg/kg)	390U µg/kg	330 µg/kg	
	Anthracene (74,000 µg/kg)	390U µg/kg	330 µg/kg	
	Carbazole (42,000 µg/kg)	390U µg/kg	330 µg/kg	
	Fluoranthene (170,000 µg/kg)	390U µg/kg	330 µg/kg	
	Pyrene (89,000 µg/kg)	390U µg/kg	330 µg/kg	
	Benzo(a)anthracene (26,000 µg/kg)	390U µg/kg	330 µg/kg	
	Chrysene (30,000 µg/kg)	390U µg/kg	330 µg/kg	
PW-18-SS (0 - 6 inches)	Fluoranthene (1,000 µg/kg)	440U µg/kg	330 µg/kg	8, Appendix A, p. 27, 57; 10, pp. 5, 7, 9; 13, p. 3
	Pyrene (1,100 µg/kg)	440U µg/kg	330 µg/kg	
	Chrysene (860 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(b)fluoranthene (1,200 µg/kg)	440U µg/kg	330 µg/kg	

Sample Number (Depth bgs)	Hazardous Substance (Concentration)	Background Concentration	*CRDL/ CRQL/ **PQL	Reference(s)
PW-19-SS (0 - 6 inches)	Anthracene (6,000 µg/kg)	440U µg/kg	330 µg/kg	8, Appendix A, pp. 27, 59, 331, 337; 10, pp. 4, 5, 7, 9; 12; 13, p. 7
	Fluoranthene (24,000 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(a)anthracene (20,000 µg/kg)	440U µg/kg	330 µg/kg	
	Chrysene (28,000 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(b)fluoranthene (31,000 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(k)fluoranthene (26,000 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(a)pyrene (18,000 µg/kg)	440U µg/kg	330 µg/kg	
	Indeno(1,2,3-cd)pyrene (7,900 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(ghi)perylene (5,300 µg/kg)	440UJ µg/kg	330 µg/kg	
	2,3,7,8-TCDD (21 ng/kg)	1.9U ng/kg	2 ng/kg	
	TCDD (Total) (750J ng/kg)	1.9UJ n/kg	2 ng/kg	
	1,2,3,7,8-PeCDD (490 ng/kg)	4.9U ng/kg	5 ng/kg	
	PeCDD (Total) (4,700J ng/kg)	4.9UJ ng/kg	5 ng/kg	
	1,2,3,4,7,8-HxCDD (4,100J ng/kg)	2.7J ng/kg	5 ng/kg	
	1,2,3,6,7,8-HxCDD (15,000J ng/kg)	4.5J ng/kg	5 ng/kg	
	1,2,3,7,8,9-HxCDD (4,500J ng/kg)	4.4J ng/kg	5 ng/kg	
	HxCDD (Total) (69,000J ng/kg)	58J ng/kg	5 ng/kg	
	1,2,3,4,6,7,8-HpCDD (320,000J ng/kg)	180 ng/kg	5 ng/kg	
	HpCDD (Total) (260,000J ng/kg)	550J ng/kg	5 ng/kg	
	OCDD (260,000J ng/kg)	2,200J ng/kg	10 ng/kg	
	TCDF (Total) (480J ng/kg)	4.8J ng/kg	2 ng/kg	
	2,3,4,7,8-PeCDF (490 ng/kg)	1.9J ng/kg	5 ng/kg	
	PeCDF (Total) (10,000J ng/kg)	16J ng/kg	5 ng/kg	
	1,2,3,4,7,8-HxCDF (5,700J ng/kg)	11U ng/kg	5 ng/kg	
	1,2,3,6,7,8-HxCDF (5,000J ng/kg)	3.5J ng/kg	5 ng/kg	
	1,2,3,7,8,9-HxCDF (250 ng/kg)	4.9U ng/kg	5 ng/kg	
	2,3,4,6,7,8-HxCDF (930J ng/kg)	2.5J ng/kg	5 ng/kg	
	HxCDF (Total) (44,000J ng/kg)	33J ng/kg	5 ng/kg	
	1,2,3,4,6,7,8-HpCDF (14,000 ng/kg)	54 ng/kg	5 ng/kg	
	1,2,3,4,7,8,9-HpCDF (5,200J ng/kg)	4.1 ng/kg	5 ng/kg	
	HpCDF (Total) (140,000J ng/kg)	150J ng/kg	5 ng/kg	
	OCDF (180,000J ng/kg)	97J ng/kg	10 ng/kg	
PW-19-SB (3 feet)	Acenaphthene (850 µg/kg)	390U µg/kg	330 µg/kg	8, Appendix A, pp. 72, 98, 255, 268; 10, pp. 4, 5, 7, 9; 13, p. 7
	Fluorene (610 µg/kg)	390U µg/kg	330 µg/kg	
	Phenanthrene (1,700 µg/kg)	390U µg/kg	330 µg/kg	
	Anthracene (1,500 µg/kg)	390U µg/kg	330 µg/kg	
	Fluoranthene (5,800 µg/kg)	390U µg/kg	330 µg/kg	
	Pyrene (4,300 µg/kg)	390U µg/kg	330 µg/kg	
	Benzo(a)anthracene (1,300 µg/kg)	390U µg/kg	330 µg/kg	
	Chrysene (1,400 µg/kg)	390U µg/kg	330 µg/kg	
	Benzo(b)fluoranthene (650 µg/kg)	390U µg/kg	330 µg/kg	
	Benzo(k)fluoranthene (800 µg/kg)	390U µg/kg	330 µg/kg	
	Benzo(a)pyrene (500 µg/kg)	390U µg/kg	330 µg/kg	

Sample Number (Depth bgs)	Hazardous Substance (Concentration)	Background Concentration	*CRDL/ CRQL/ **PQL	Reference(s)
PW-20-SS (0 - 6 inches)	Fluoranthene (130,000 µg/kg)	440U µg/kg	330 µg/kg	8, pp. 32, 36, 37, 38, 39, Appendix A, pp. 27, 61, 250, 331, 338; 10, pp. 5, 7, 9; 12; 13, p. 7
	Pyrene (330,000 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(a)anthracene (95,000 µg/kg)	440U µg/kg	330 µg/kg	
	Chrysene (130,000 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(b)fluoranthene (110,000 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(k)fluoranthene (97,000 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(a)pyrene (87,000 µg/kg)	440U µg/kg	330 µg/kg	
	Indeno(1,2,3)pyrene (30,000 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(ghi)perylene (20,000 µg/kg)	440UJ µg/kg	330 µg/kg	
	2,3,7,8-TCDD (8.3 ng/kg)	1.9U ng/kg	2 ng/kg	
	TCDD (Total) (770J ng/kg)	1.9UJ ng/kg	2 ng/kg	
	1,2,3,7,8-PeCDD (62 ng/kg)	4.9U ng/kg	5 ng/kg	
	PeCDD (Total) (4,500J ng/kg)	4.9UJ ng/kg	5 ng/kg	
	1,2,3,4,7,8-HxCDD (860 ng/kg)	2.7J ng/kg	5 ng/kg	
	1,2,3,6,7,8-HxCDD (850 ng/kg)	4.5J ng/kg	5 ng/kg	
	1,2,3,7,8,9-HxCDD (3,400 ng/kg)	4.4J ng/kg	5 ng/kg	
	HxCDD (Total) (51,000J ng/kg)	58J ng/kg	5 ng/kg	
	1,2,3,4,6,7,8-HpCDD (14,000 ng/kg)	180 ng/kg	5 ng/kg	
	HpCDD (Total) (160,000J ng/kg)	550J ng/kg	5 ng/kg	
	OCDD (91,000J ng/kg)	2,200J ng/kg	10 ng/kg	
	TCDF (Total) (49J ng/kg)	4.8J ng/kg	2 ng/kg	
	2,3,4,7,8-PeCDF (19 ng/kg)	1.9J ng/kg	5 ng/kg	
	PeCDF (Total) (280J ng/kg)	16J ng/kg	5 ng/kg	
	1,2,3,6,7,8-HxCDF (94J ng/kg)	3.5J ng/kg	5 ng/kg	
	2,3,4,6,7,8-HxCDF (55 ng/kg)	2.5J ng/kg	5 ng/kg	
	HxCDF (Total) (2,100J ng/kg)	33J ng/kg	5 ng/kg	
	1,2,3,4,6,7,8-HpCDF (2,000 ng/kg)	54 ng/kg	5 ng/kg	
	1,2,3,4,7,8,9-HpCDF (220 ng/kg)	4.1 ng/kg	5 ng/kg	
	HpCDF (Total) (160,000J ng/kg)	150J ng/kg	5 ng/kg	
	OCDF (5,500J ng/kg)	97J ng/kg	10 ng/kg	
PW-20-SB (2 feet)	Fluoranthene (13,000 µg/kg)	390U µg/kg	330 µg/kg	8, Appendix A, pp. 72, 100; 10, pp. 5, 7, 9; 13, p. 8
	Pyrene (13,000 µg/kg)	390U µg/kg	330 µg/kg	
	Benzo(a)anthracene (4,000 µg/kg)	390U µg/kg	330 µg/kg	
	Chrysene (6,600 µg/kg)	390U µg/kg	330 µg/kg	
	Benzo(b)fluoranthene (7,700 µg/kg)	390U µg/kg	330 µg/kg	
	Benzo(k)fluoranthene (4,300 µg/kg)	390U µg/kg	330 µg/kg	
PW-23-SS (0 - 6 inches)	Lead (110 mg/kg)	11 mg/kg	0.6 mg/kg	8, Appendix A, pp. 27, 67, 233, 253; 10, pp. 4, 5, 7, 9; 13, p. 5
	Phenanthrene (1,400 µg/kg)	440U µg/kg	330 µg/kg	
	Fluoranthene (2,900 µg/kg)	440U µg/kg	330 µg/kg	
	Pyrene (2,700 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(a)anthracene (1,600 µg/kg)	440U µg/kg	330 µg/kg	
	Chrysene (2,200 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(b)fluoranthene (1,400 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(k)fluoranthene (2,400 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(a)pyrene (1,900 µg/kg)	440U µg/kg	330 µg/kg	
	Indeno(1,2,3-cd)pyrene (1,200 µg/kg)	440U µg/kg	330 µg/kg	
	Benzo(ghi)perylene (1,100 µg/kg)	440UJ µg/kg	330 µg/kg	

Sample Number (Depth bgs)	Hazardous Substance (Concentration)	Background Concentration	*CRDL/ CRQL/ **PQL	Reference(s)
PW-24-SS (0 - 6 inches)	Lead (83 mg/kg)	11 mg/kg	0.6 mg/kg	8, Appendix A, pp. 69, 233, 254, 331, 339; 10, p. 9; 13, p. 5
	2,3,7,8-TCDD (2.6 ng/kg)	1.9U ng/kg	2 ng/kg	
	TCDD (Total) (120J ng/kg)	1.9UJ ng/kg	2 ng/kg	
	1,2,3,7,8-PeCDD (24 ng/kg)	4.9U ng/kg	5 ng/kg	
	PeCDD (Total) (300J ng/kg)	4.9UJ ng/kg	5 ng/kg	
	1,2,3,4,7,8-HxCDD (120 ng/kg)	2.7J ng/kg	5 ng/kg	
	1,2,3,6,7,8-HxCDD (610 ng/kg)	4.5J ng/kg	5 ng/kg	
	1,2,3,7,8,9-HxCDD (280 ng/kg)	4.4J ng/kg	5 ng/kg	
	HxCDD (Total) (4,500J ng/kg)	58J ng/kg	5 ng/kg	
	1,2,3,4,6,7,8-HpCDD (19,000J ng/kg)	180 ng/kg	5 ng/kg	
	HpCDD (Total) (44,000J ng/kg)	550J ng/kg	5 ng/kg	
	OCDD (46,000J ng/kg)	2,200J ng/kg	10 ng/kg	
	TCDF (Total) (68J ng/kg)	4.8J ng/kg	2 ng/kg	
	2,3,4,7,8-PeCDF (40 ng/kg)	1.9J ng/kg	5 ng/kg	
	PeCDF (Total) (760J ng/kg)	16J ng/kg	5 ng/kg	
	1,2,3,6,7,8-HxCDF (100J ng/kg)	3.5J ng/kg	5 ng/kg	
	1,2,3,7,8,9-HxCDF (5.4 ng/kg)	4.9U ng/kg	5 ng/kg	
	2,3,4,6,7,8-HxCDF (160 ng/kg)	2.5J ng/kg	5 ng/kg	
	HxCDF (Total) (4,100J ng/kg)	33J ng/kg	5 ng/kg	
	1,2,3,4,6,7,8-HpCDF (3,800J ng/kg)	54 ng/kg	5 ng/kg	
	1,2,3,4,7,8,9-HpCDF (300 ng/kg)	4.1 ng/kg	5 ng/kg	
	HpCDF (Total) (16,000J ng/kg)	150J ng/kg	5 ng/kg	
	OCDF (14,000J ng/kg)	97J ng/kg	10 ng/kg	

Notes:

bgs - Below ground surface

* - Contract-required detection limits (CRDL) were provided for inorganic constituents, and contract-required quantitation limits (CRQL) were provided for the organic compounds (Ref. 10).

** - Dioxin and furan analyses were performed using SW-846, Method 8290; therefore, the practical quantitation limits (PQLs) used by the EPA Region 4 Science and Ecosystem Support Division (SESD) were provided (Ref. 12). SESD performs data validation on all data from Region 4 that are analyzed at CLP laboratories (Ref. 17).

PW - Picayune Wood Treating

SD - Sediment sample

mg/kg - Milligrams per kilogram

µg/kg - Micrograms per kilogram

ND - Not documented

SS - Surface soil sample

SB - Subsurface soil sample

ng/kg - Nanograms per kilogram

TCDD - Tetrachlorodibenzodioxin

PeCDD - Pentachlorodibenzodioxin

HxCDD - Hexachlorodibenzodioxin

HpCDD - Heptachlorodibenzodioxin

OCDD - Octachlorodibenzodioxin

TCDF - Tetrachlorodibenzofuran

PeCDF - Pentachlorodibenzofuran

HxCDF - Hexachlorodibenzofuran

HpCDF - Heptachlorodibenzofuran

OCDF - Octachlorodibenzofuran

Additional soil samples were collected by EPA from contaminated soil at the Picayune Wood Treating site during the week of November 18, 2002 (Refs. 37; 38). All samples were collected in accordance with procedures documented in the EPA SESD Region 4 EISOPQAM (November 2001) (Refs. 38, p. 2; 40, p. 2; 41).

The analytical results for the soil samples are summarized in the table below. Analytical data sheets are provided in Reference 42; all samples were analyzed by an EPA CLP laboratory (Ref. 42, p. 1). Data validation was conducted by EPA Region 4, SESD; QA/QC information is provided in Reference 42. For inorganic hazardous substances, contract-required detection limits (CRDLs) are provided, and CRQLs are provided for organic hazardous substances. The CRDLs and CRQLs are listed in Reference 10. CRQLs are provided for dioxin and furan analyses, as listed in Reference 48.

Surface and subsurface soil samples collected in November 2002 were compared to background surface soil (PW-01-SS) and subsurface soil (PW-01-SB) samples. Background sample data can be found in Reference 10, pages 3 through 5, 9; Reference 37, pages 5, 6; and Reference 42, pages 4, 8, 36, 119, 169, 237, 238, 242, 266.

Sample Number (Depth bgs)	Hazardous Substance (Concentration)	Background Concentration	*CRDL/ CRQL	Reference(s)
PW-02-SS (0 - 6 inches)	Mercury (2.3 mg/kg)	0.06U mg/kg	0.1 mg/kg	10, pp. 3, 4, 5, 9; 21, p. 4; 37, p. 7; 42, pp. 4, 8, 11, 119, 120, 237, 241, 242, 243; 48, Exhibit C, p. 3-4
	Nickel (140 mg/kg)	2.3 mg/kg	8 mg/kg	
	Cyanide (0.78 mg/kg)	0.11U mg/kg	0.5 mg/kg	
	Acenaphthene (510,000 µg/kg)	330U µg/kg	330 µg/kg	
	Dibenzofuran (350,000 µg/kg)	330U µg/kg	330 µg/kg	
	Phenanthrene (3,100,000 µg/kg)	330U µg/kg	330 µg/kg	
	Carbazole (120,000 µg/kg)	330U µg/kg	330 µg/kg	
	Fluoranthene (3,300,000 µg/kg)	110J µg/kg	330 µg/kg	
	Pyrene (2,200,000 µg/kg)	100J µg/kg	330 µg/kg	
	Benzo(a)anthracene (460,000 µg/kg)	70J µg/kg	330 µg/kg	
	Benzo(b)fluoranthene (260,000 µg/kg)	69J µg/kg	330 µg/kg	
	Benzo(k)fluoranthene (200,000 µg/kg)	64J µg/kg	330 µg/kg	
	Benzo(a)pyrene (150,000 µg/kg)	62J µg/kg	330 µg/kg	
	TCDD (Total) (1300J ng/kg)	0.18UJ ng/kg	NA	
	1,2,3,7,8-PeCDD (220J ng/kg)	0.22J ng/kg	5.0 ng/kg	
	1,2,3,4,7,8-HxCDD (1,200 ng/kg)	0.46J ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDD (7,400 ng/kg)	1.7U ng/kg	5.0 ng/kg	
	1,2,3,7,8,9-HxCDD (5,200 ng/kg)	1.4J ng/kg	5.0 ng/kg	
	HxCDD (Total) (90,000J ng/kg)	16J ng/kg	NA	
	1,2,3,4,6,7,8-HpCDD (190,000J ng/kg)	48U ng/kg	5.0 ng/kg	
	OCDD (3,700,000J ng/kg)	870J ng/kg	10 ng/kg	
	1,2,3,4,7,8-HxCDF (2,400 ng/kg)	1.5J ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDF (42,000 ng/kg)	11 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF (3,300 ng/kg)	0.66U ng/kg	5.0 ng/kg	
	OCDF (190,000 ng/kg)	23U ng/kg	10 ng/kg	

Sample Number (Depth bgs)	Hazardous Substance (Concentration)	Background Concentration	*CRDL/ CRQL	Reference(s)
PW-03-SS (0 - 6 inches)	Arsenic (4.2 mg/kg)	1.3 mg/kg	2 mg/kg	10, pp. 4, 5, 9; 21, p. 4; 37, pp. 7, 8; 42, pp. 8, 14, 119, 121, 236, 241, 242, 244; 48, Exhibit C, p. 3-4
	Nickel (16 mg/kg)	2.3 mg/kg	8 mg/kg	
	Acenaphthene (850,000 µg/kg)	330U µg/kg	330 µg/kg	
	Dibenzofuran (140,000 µg/kg)	330U µg/kg	330 µg/kg	
	Fluorene (600,000 µg/kg)	330U µg/kg	330 µg/kg	
	Phenanthrene (3,000,000 µg/kg)	330U µg/kg	330 µg/kg	
	Anthracene (810,000 µg/kg)	330U µg/kg	330 µg/kg	
	Fluoranthene (7,200,000 µg/kg)	110J µg/kg	330 µg/kg	
	Pyrene (5,000,000 µg/kg)	100J µg/kg	330 µg/kg	
	Chrysene (1,400,000 µg/kg)	84J µg/kg	330 µg/kg	
	Benzo(k)fluoranthene (300,000 µg/kg)	64J µg/kg	330 µg/kg	
	Benzo(a)pyrene (300,000 µg/kg)	62J µg/kg	330 µg/kg	
	Indeno(1,2,3-cd)pyrene (120,000 µg/kg)	45J µg/kg	330 µg/kg	
	Benzo(ghi)perylene (92,000 µg/kg)	330U µg/kg	330 µg/kg	
	TCDD (Total) (5100J ng/kg)	0.18UJ ng/kg	NA	
	PeCDD (Total) (28,000J ng/kg)	1.0J ng/kg	NA	
	1,2,3,6,7,8-HxCDD (4,200 ng/kg)	1.7U ng/kg	5.0 ng/kg	
	1,2,3,7,8,9-HxCDD (13,000 ng/kg)	1.4J ng/kg	5.0 ng/kg	
	HxCDD (Total) (150,000J ng/kg)	16J ng/kg	NA	
	HpCDD (Total) (740,000J ng/kg)	140J ng/kg	NA	
	OCDD (ng/kg)	870J ng/kg	10 ng/kg	
	PeCDF (Total) (5700J ng/kg)	2.6J ng/kg	NA	
	HxCDF (Total) (19,000J ng/kg)	13J ng/kg	NA	
	1,2,3,4,6,7,8-HpCDF (15,000 ng/kg)	11 ng/kg	5.0 ng/kg	
	HpCDF (Total) (95,000J ng/kg)	18J ng/kg	NA	
PW-04-SS (0 - 6 inches)	Mercury (0.34 mg/kg)	0.06U mg/kg	0.1 mg/kg	10, pp. 3, 4, 5, 9; 21, p. 4; 37, p. 9; 42, pp. 8, 17, 119, 122, 175, 236, 241, 242, 245; 48, Exhibit C, p. 3-4
	Toluene (39 µg/kg)	11U µg/kg	10 µg/kg	
	Anthracene (12,000 µg/kg)	330U µg/kg	330 µg/kg	
	Fluoranthene (5,200 µg/kg)	110J µg/kg	330 µg/kg	
	Pyrene (7,700 µg/kg)	100J µg/kg	330 µg/kg	
	Chrysene (6,400 µg/kg)	84J µg/kg	330 µg/kg	
	Benzo(b)fluoranthene (10,000 µg/kg)	69J µg/kg	330 µg/kg	
	Benzo(k)fluoranthene (9,600 µg/kg)	64J µg/kg	330 µg/kg	
	Benzo(a)pyrene (6,200 µg/kg)	62J µg/kg	330 µg/kg	
	TCDD (Total) (320J ng/kg)	0.18UJ ng/kg	NA	
	1,2,3,4,7,8-HxCDD (2,200 ng/kg)	0.46J ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDD (28,000 ng/kg)	1.7U ng/kg	5.0 ng/kg	
	1,2,3,7,8,9-HxCDD (6,800 ng/kg)	1.4J ng/kg	5.0 ng/kg	
	HxCDD (Total) (160,000J ng/kg)	16J ng/kg	NA	
	1,2,3,4,6,7,8-HpCDD (540,000J ng/kg)	48U ng/kg	5.0 ng/kg	
	HpCDD (Total) (1,400,000J ng/kg)	140J ng/kg	NA	
	OCDD (7,700,000J ng/kg)	870J ng/kg	10 ng/kg	
	1,2,3,4,7,8-HxCDF (11,000 ng/kg)	1.5J ng/kg	5.0 ng/kg	
	2,3,4,6,7,8-HxCDF (2,600J ng/kg)	0.41J ng/kg	5.0 ng/kg	
	HxCDF (Total) (330,000J ng/kg)	13J ng/kg	NA	
	1,2,3,4,6,7,8-HpCDF (220,000 ng/kg)	11 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF (15,000 ng/kg)	0.66U ng/kg	5.0 ng/kg	
	HpCDF (Total) (1,400,000J ng/kg)	18J ng/kg	NA	
	OCDF (780,000J ng/kg)	23U ng/kg	10 ng/kg	

Sample Number (Depth bgs)	Hazardous Substance (Concentration)	Background Concentration	*CRDL/ CRQL	Reference(s)
PW-05-SS (0 - 6 inches)	Arsenic (46 mg/kg) Nickel (45 mg/kg) Anthracene (390 µg/kg) Fluoranthene (690 µg/kg) Pyrene (780 µg/kg) Benzo(a)anthracene (360 µg/kg) Chrysene (970 µg/kg) bis(2-ethylhexyl)phthalate (710 µg/kg) Benzo(b)fluoranthene (1,200 µg/kg) Benzo(k)fluoranthene (670 µg/kg) Benzo(a)pyrene (450 µg/kg) Indeno(1,2,3-cd)pyrene (560 µg/kg) 1,2,3,6,7,8-HxCDD (4,600 ng/kg) 1,2,3,7,8,9-HxCDD (2,800 ng/kg) HxCDD (Total) (48,000J ng/kg) HpCDD (Total) (380,000J ng/kg) OCDD (1,700,000J ng/kg) 1,2,3,4,7,8-HxCDF (2,300 ng/kg) 1,2,3,4,6,7,8-HpCDF (36,000 ng/kg) 1,2,3,4,7,8,9-HpCDF (2,400 ng/kg) HpCDF (Total) (140,000J ng/kg) OCDF (100,000J ng/kg)	1.3 mg/kg 2.3 mg/kg 330U µg/kg 110J µg/kg 100J µg/kg 70J µg/kg 84J µg/kg 330U µg/kg 69J µg/kg 64J µg/kg 62J µg/kg 45J µg/kg 1.7U ng/kg 1.4J ng/kg 16J ng/kg 140J ng/kg 870J ng/kg 1.5J ng/kg 11 ng/kg 0.66U ng/kg 18J ng/kg 23U ng/kg	2 mg/kg 8 mg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 5.0 ng/kg 5.0 ng/kg NA NA 10 ng/kg 5.0 ng/kg 5.0 ng/kg 5.0 ng/kg NA 10 ng/kg	10, pp. 4, 5, 9; 21, p. 4; 37, pp. 9, 10; 42, pp. 8, 20, 119, 123, 237, 241, 242, 247; 48, Exhibit C, p. 3-4
PW-06-SS (0 - 3 inches)	1,2,3,7,8-PeCDD (5.1 ng/kg) PeCDD (Total) (41J ng/kg) 1,2,3,4,7,8-HxCDD (9.6 ng/kg) 1,2,3,6,7,8-HxCDD (35 ng/kg) 1,2,3,7,8,9-HxCDD (28 ng/kg) HpCDD (Total) (4500J ng/kg) OCDD (7,300J ng/kg) 2,3,4,7,8-PeCDF (5.2 ng/kg) PeCDF (Total) (110J ng/kg) 1,2,3,4,7,8-HxCDF (21 ng/kg) 1,2,3,6,7,8-HxCDF (18 ng/kg) 1,2,3,4,6,7,8-HpCDF (230 ng/kg) 1,2,3,4,7,8,9-HpCDF (12 ng/kg) HpCDF (Total) (640J ng/kg) OCDF (350 ng/kg)	0.22J ng/kg 1.0J ng/kg 0.46J ng/kg 1.7U ng/kg 1.4J ng/kg 140J ng/kg 870J ng/kg 0.28J ng/kg 2.6J ng/kg 1.5J ng/kg 0.81J ng/kg 11 mg/kg 0.66U ng/kg 18J ng/kg 23U ng/kg	5.0 ng/kg NA 5.0 ng/kg 5.0 ng/kg 5.0 ng/kg NA 10 ng/kg 5.0 ng/kg NA 5.0 ng/kg 5.0 ng/kg 5.0 ng/kg 5.0 ng/kg NA 10 ng/kg	38, pp. 14, 15; 42, pp. 237, 241, 242, 248; 48, Exhibit C, p. 3-4
PW-07-SS (0 - 3 inches)	1,2,3,4,7,8-HxCDD (5.3 ng/kg) 1,2,3,6,7,8-HxCDD (25 ng/kg) 1,2,3,7,8,9-HxCDD (15 ng/kg) 1,2,3,4,7,8-HxCDF (15 ng/kg) 1,2,3,6,7,8-HxCDF (6.1 ng/kg) 1,2,3,4,6,7,8-HpCDF (180 ng/kg) 1,2,3,4,7,8,9-HpCDF (13 ng/kg) OCDF (340 ng/kg)	0.46J ng/kg 1.7U ng/kg 1.4J ng/kg 1.5J ng/kg 0.81J ng/kg 11 ng/kg 0.66U ng/kg 23U ng/kg	5.0 ng/kg 5.0 ng/kg 5.0 ng/kg 5.0 ng/kg 5.0 ng/kg 5.0 ng/kg 5.0 ng/kg 10 ng/kg	42, pp. 238, 241, 242, 249; 48, Exhibit C, p. 3-4

Sample Number (Depth bgs)	Hazardous Substance (Concentration)	Background Concentration	*CRDL/ CRQL	Reference(s)
PW-08-SS (0 - 6 inches)	Phenanthrene (440 µg/kg)	330U µg/kg	330 µg/kg	10, pp. 4, 5; 21, p. 4; 37, p. 8; 42, pp. 8, 29, 237, 241, 242, 250; 48, Exhibit C, p. 3-4
	Anthracene (1,600 µg/kg)	330U µg/kg	330 µg/kg	
	Carbazole (350 µg/kg)	330U µg/kg	330 µg/kg	
	Fluoranthene (2,400 µg/kg)	110J µg/kg	330 µg/kg	
	Pyrene (2,400 µg/kg)	100J µg/kg	330 µg/kg	
	Benzo(a)anthracene (730 µg/kg)	70J µg/kg	330 µg/kg	
	Chrysene (1,600 µg/kg)	84J µg/kg	330 µg/kg	
	Di-n-octylphthalate (1,600 µg/kg)	330U µg/kg	330 µg/kg	
	Benzo(b)fluoranthene (2,400 µg/kg)	69J µg/kg	330 µg/kg	
	Benzo(k)fluoranthene (830 µg/kg)	64J µg/kg	330 µg/kg	
	Benzo(a)pyrene (610 µg/kg)	62J µg/kg	330 µg/kg	
	Indeno(1,2,3-cd)pyrene (980 µg/kg)	45J µg/kg	330 µg/kg	
	Benzo(ghi)perylene (820 µg/kg)	330U µg/kg	330 µg/kg	
	TCDD (Total) (51J ng/kg)	0.18UJ ng/kg	NA	
	1,2,3,6,7,8-HxCDD (1,800 ng/kg)	1.7U ng/kg	5.0 ng/kg	
	1,2,3,7,8,9-HxCDD (1,300 ng/kg)	1.4J ng/kg	5.0 ng/kg	
	HxCDD (Total) (20,000J ng/kg)	16J ng/kg	NA	
	1,2,3,4,6,7,8-HpCDD (61,000J ng/kg)	48U ng/kg	5.0 ng/kg	
	HpCDD (Total) (220,000J ng/kg)	140J ng/kg	NA	
	OCDD (770,000J ng/kg)	870J ng/kg	10 ng/kg	
	TCDF (Total) (64J ng/kg)	0.81J ng/kg	NA	
	1,2,3,4,7,8-HxCDF (650 ng/kg)	1.5J ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDF (940 ng/kg)	0.81J ng/kg	5.0 ng/kg	
	HxCDF (Total) (17,000J ng/kg)	13J ng/kg	NA	
	1,2,3,4,6,7,8-HpCDF (10,000 ng/kg)	11 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF (800 ng/kg)	0.66U ng/kg	5.0 ng/kg	
	HpCDF (Total) (40,000J ng/kg)	18J ng/kg	NA	
	OCDF (26,000 ng/kg)	23U ng/kg	10 ng/kg	

Sample Number (Depth bgs)	Hazardous Substance (Concentration)	Background Concentration	*CRDL/ CRQL	Reference(s)
PW-09-SS (0 - 6 inches)	Mercury (0.22 mg/kg)	0.06U mg/kg	0.1 mg/kg	10, pp. 3, 4, 5, 9; 21, p. 4; 37, pp. 8, 9; 42, pp. 8, 32, 119, 127, 169, 185, 239, 241, 242, 251; 48, Exhibit C, p. 3-4
	Nickel (20 mg/kg)	2.3 mg/kg	8 mg/kg	
	Toluene (19 µg/kg)	11U µg/kg	10 µg/kg	
	Acenaphthene (1,300,000 µg/kg)	330U µg/kg	330 µg/kg	
	Dibenzofuran (170,000 µg/kg)	330U µg/kg	330 µg/kg	
	Pentachlorophenol (180,000 µg/kg)	830U µg/kg	330 µg/kg	
	Phenanthrene (1,800,000 µg/kg)	330U µg/kg	330 µg/kg	
	Fluoranthene (7,700,000 µg/kg)	110J µg/kg	330 µg/kg	
	Pyrene (5,000,000 µg/kg)	100J µg/kg	330 µg/kg	
	Benzo(k)fluoranthene (240,000 µg/kg)	64J µg/kg	330 µg/kg	
	Benzo(a)pyrene (240,000 µg/kg)	62J µg/kg	330 µg/kg	
	Indeno(1,2,3-cd)pyrene (92,000 µg/kg)	45J µg/kg	330 µg/kg	
	Benzo(ghi)perylene (63,000 µg/kg)	330U µg/kg	330 µg/kg	
	2,3,7,8-TCDD (450 ng/kg)	0.18U ng/kg	1.0 ng/kg	
	TCDD (Total) (450J ng/kg)	0.18UJ ng/kg	NA	
	PeCDD (Total) (11,000J ng/kg)	1.0J ng/kg	NA	
	1,2,3,4,7,8-HxCDD (2,200 ng/kg)	0.46J ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDD (11,000 ng/kg)	1.7U ng/kg	5.0 ng/kg	
	1,2,3,7,8,9-HxCDD (9,400 ng/kg)	1.4J ng/kg	5.0 ng/kg	
	HxCDD (Total) (130,000J ng/kg)	16J ng/kg	NA	
	1,2,3,4,6,7,8-HpCDD (280,000J ng/kg)	48U ng/kg	5.0 ng/kg	
	HpCDD (Total) (1,100,000J ng/kg)	140J ng/kg	NA	
	OCDD (4,700,000J ng/kg)	870J ng/kg	10 ng/kg	
	2,3,7,8-TCDF (71J ng/kg)	0.10U ng/kg	1.0 ng/kg	
	TCDF (Total) (160J ng/kg)	0.81J ng/kg	NA	
	2,3,4,7,8-PeCDF (370J ng/kg)	0.28J ng/kg	5.0 ng/kg	
	PeCDF (Total) (15,000J ng/kg)	2.6J ng/kg	NA	
	1,2,3,4,7,8-HxCDF (2,300 ng/kg)	1.5J ng/kg	5.0 ng/kg	
	2,3,4,6,7,8-HxCDF (600J ng/kg)	0.41J ng/kg	5.0 ng/kg	
	HxCDF (Total) (57,000J ng/kg)	13J ng/kg	NA	
	1,2,3,4,6,7,8-HpCDF (48,000 ng/kg)	11 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF (4,200 ng/kg)	0.66U ng/kg	5.0 ng/kg	
	HpCDF (Total) (310,000J ng/kg)	18J ng/kg	NA	
	OCDF (270,000 ng/kg)	23U ng/kg	10 ng/kg	

Sample Number (Depth bgs)	Hazardous Substance (Concentration)	Background Concentration	*CRDL/ CRQL	Reference(s)
PW-05-SB (3 feet)	Phenanthrene (1,500 µg/kg) Fluoranthene (3,800 µg/kg) Pyrene (3,600 µg/kg) Benzo(a)anthracene (2,200 µg/kg) Chrysene (3,100 µg/kg) Benzo(b)fluoranthene (2,000 µg/kg) Benzo(k)fluoranthene (1,600 µg/kg) Benzo(a)pyrene (2,000 µg/kg) Indeno(1,2,3-cd)pyrene (1,400 µg/kg) TCDD (Total) (2.6J ng/kg) 1,2,3,7,8-PeCDD (2.4J ng/kg) PeCDD (Total) (15J ng/kg) 1,2,3,4,7,8-HxCDD (7.8 ng/kg) 1,2,3,6,7,8-HxCDD (38 ng/kg) 1,2,3,7,8,9-HxCDD (22 ng/kg) HxCDD (Total) (400J ng/kg) 1,2,3,4,6,7,8-HpCDD (1,400J ng/kg) HpCDD (Total) (5,500J ng/kg) OCDD (15,000J ng/kg) TCDF (Total) (1.6J ng/kg) PeCDF (Total) (67J ng/kg) 1,2,3,4,7,8-HxCDF (8.1 ng/kg) 1,2,3,7,8,9-HxCDF (0.70J ng/kg) HxCDF (Total) (230J ng/kg) 1,2,3,4,6,7,8-HpCDF (190 ng/kg) 1,2,3,4,7,8,9-HpCDF (14 ng/kg) HpCDF (Total) (970J ng/kg) OCDF (440 ng/kg)	38J µg/kg 330U µg/kg 330U µg/kg 330U µg/kg 330U µg/kg 330U µg/kg 330U µg/kg 330U µg/kg 330U µg/kg 0.41J ng/kg 0.46J ng/kg 0.46J ng/kg 0.60J ng/kg 2.1J ng/kg 3.9J ng/kg 21J ng/kg 87J ng/kg 240J ng/kg 3,200J ng/kg 0.54UJ ng/kg 2.3J ng/kg 0.45J ng/kg 0.28U ng/kg 7.9J ng/kg 8.8 ng/kg 0.78U ng/kg 26J ng/kg 20U ng/kg	330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg NA 5.0 ng/kg NA 5.0 ng/kg 5.0 ng/kg 5.0 ng/kg NA 5.0 ng/kg NA 10 ng/kg NA NA 5.0 ng/kg 5.0 ng/kg NA 5.0 ng/kg 5.0 ng/kg NA 10 ng/kg	10, pp. 4, 5; 21, p. 4; 37, pp. 3, 4; 42, pp. 4, 36, 45, 237, 241, 266, 270; 48, Exhibit C, p. 3-4
PW-06-SB (4 feet)	HxCDF (Total) (45J ng/kg) 1,2,3,4,6,7,8-HpCDF (250 ng/kg) HpCDF (Total) (240J ng/kg) OCDF (200 ng/kg)	7.9J ng/kg 8.8 ng/kg 26J ng/kg 20U ng/kg	NA 5.0 ng/kg NA 10 ng/kg	37, p. 4; 42, pp. 237, 241, 266, 271; 48, Exhibit C, p. 3-4

Notes:

bgs - Below ground surface

* - Contract-required detection limits (CRDL) are provided for inorganic constituents, and contract-required quantitation limits (CRQL) are provided for the organic compounds (Ref. 10).
- Dioxin and furan analyses were conducted in accordance with the U.S. EPA Statement of Work for Analysis of Chlorinated Dibenzo-P-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs), Multi-Media, Multi-Concentration, DLM01.4 (Reference 48). CRQLs for dioxin and furan compound analyses are provided and listed in Reference 48.

J - Estimated value

PW - Picayune Wood Treating

SD - Sediment sample

mg/kg - Milligrams per kilogram

NA - Not available for total dioxins/furans

µg/kg - Micrograms per kilogram

SS - Surface soil sample

SB - Subsurface soil sample

ng/kg - Nanograms per kilogram

TCDD - Tetrachlorodibenzodioxin

PeCDD - Pentachlorodibenzodioxin
HxCDD - Hexachlorodibenzodioxin
HpCDD - Heptachlorodibenzodioxin
OCDD - Octachlorodibenzodioxin
TCDF - Tetrachlorodibenzofuran
PeCDF - Pentachlorodibenzofuran
HxCDF - Hexachlorodibenzofuran
HpCDF - Heptachlorodibenzofuran
OCDF - Octachlorodibenzofuran

2.4.2. Hazardous Waste Quantity

2.4.2.1.1. Hazardous Constituent Quantity

Insufficient information is available to calculate hazardous constituent quantity.

2.4.2.1.2. Hazardous Wastestream Quantity

Insufficient information is available to calculate hazardous wastestream quantity.

2.4.2.1.3. Volume

Insufficient information is available to calculate hazardous volume quantity.

Volume Assigned Value: 0

2.4.2.1.4. Area

Insufficient information is available to calculate the area of contaminated soil. Contaminated soil is located throughout the facility property, and the area is unquantified but greater than 0.

Dimension of source (ft^2): >0
References(s): 1, Section 2.4.2.1.4, Table 2-5
Area Assigned Value: >0

2.4.2.1.5. Source Hazardous Waste Quantity Value

Source Hazardous Waste Quantity Value: >0

SOURCE DESCRIPTION

2.2 SOURCE CHARACTERIZATION

Number of the source: 2

Name and description of the source: Trench/burial area

HRS Source Type: Surface impoundments

Source No. 2 consists of three surface impoundments located on the western portion of the facility property (Refs. 5, p. 3; 14, Section 1, pp. 1, 2). These surface impoundments were used to store bottom sediment from the wastewater treatment system (Ref. 14, Section 2, p. 2 of 24). The total area of these three impoundments is approximately 27,000 square feet (ft^2). The total depth of these impoundments is approximately 7 feet, 4 inches (Ref. 14, Section 2, p. 2 of 24). In 1975, the northern impoundment was dug and used for storing flocculation sludge from the facility wastewater treatment system, and creosote tank bottoms from wood preserving operations (Ref. 16, Volume 1, p. 4). Between 1975 and 1980, the other two surface impoundments were dug and subsequently used for the same purposes (Ref. 16, Volume 1, p. 4). These impoundments also were used to store K001 bottom sediment sludge (Ref. 14, Section 2, p. 8 of 24). K001 is the waste code for bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol (Ref. 52, p. 267).

Location of the source, with reference to a map of the site:

Source No. 2 is located in the western portion of the facility property (Ref. 14, Section 2, pp. 1, 2)(see Figure 2 of this HRS documentation record).

Containment

Release to ground water: None of the three surface impoundments are lined (Ref. 14, Section 2, p. 2). Soils in the area of Source No. 2 are of the Smithton sandy loam series (Ref. 9, General Soil Map, Sheet Number 61). These soils are seasonally flooded, and the water table is at the surface during wet seasons (Ref. 9, pp. 32, 120).

Containment value: 10
Reference: 1, Table 3-2, Section 3.1.2.1

Release via overland migration and/or flood: The backfilled trenches are in an area that stays swampy and wet at times (Ref. 38, pp. 19, 20). Although this source is not within a flood plain area that has been mapped, the Smithton sandy loam soil series is prone to flooding and wetness (Refs. 9, pp. 32, 120; 39). These soils have a slow infiltration rate and, thus, a high runoff potential (Ref. 9, pp. 79, 120). Additionally, although the trenches were capped (Ref. 16, Vol 1, p. 5), there is no known run-on/run-off control system.

Surface water runoff from the facility property is directed south into a canal that flows south into Mill Creek (Refs. 3; 16, Volume 1, p. 16).

Containment value: 10
Reference 1, Section 4.1.2.1.2.1.1, Table 4-2

2.4 WASTE CHARACTERISTICS

2.4.1 Hazardous Substances

Subsurface soil samples PW-02-SB, PW-03-SB and PW-04-SB listed in the table below were collected from the trench/burial area during the November 2002 sampling event that EPA conducted (Ref. 38, pp. 15, 16, 17). Subsurface soil sample PW-02-SB was collected from the northern trench at a depth of 8 feet bgs (Ref. 38, pp. 15, 16). Subsurface soil sample PW-03-SB was collected from the central trench at a depth of 7.5 feet bgs (Ref. 38, p. 16). Subsurface soil sample PW-04-SB was collected from the southern trench at a depth of 8 feet bgs (Ref. 38, pp. 16, 17). Although the trenches are backfilled, the samples are considered to be representative because the trenches were approximately 7 feet 4 inches deep, and these subsurface soil samples were collected from depths below the backfill (Refs. 14, Section 2, p. 2 of 24; 38, pp. 16, 17). The results for subsurface soil samples PW-02-SB, PW-03-SB and PW-04-SB were compared to background subsurface soil sample PW-01-SB, which was collected from a depth of 4 feet bgs (see Figures 1 and 4) (Ref. 37, p. 6).

Analytical data sheets are provided in Reference 42; all samples were analyzed by an EPA CLP laboratory (Ref. 42). Data validation was conducted by the EPA Region 4, SESD, and QA/QC information is provided in Reference 42. CRQLs are provided for organic substances as listed in Reference 10. CRQLs for dioxin and furan analyses are listed in Reference 48.

Comparison to background samples is not necessary for surface impoundments; however, the results for subsurface soil samples from Source No. 2 were compared to background subsurface soil sample PW-01-SB to show the significance of hazardous substances in the source.

Sample Number	Hazardous Substance (Concentration)	Background Concentration	CRQL	Reference
PW-02-SB	Toluene (11,000 µg/kg) Ethyl Benzene (23,000 µg/kg) Naphthalene (7,300,000 µg/kg) 2-Methylnaphthalene (4,100,000 µg/kg) Acenaphthene (3,600,000 µg/kg) Dibenzofuran (2,100,000 µg/kg) Fluorene (2,800,000 µg/kg) Phenanthrene (8,600,000 µg/kg) Anthracene (1,900,000 µg/kg) Fluoranthene (3,800,000 µg/kg) Pyrene (2,800,000 µg/kg) 1,2,3,4,7,8-HxCDD (750J ng/kg) 1,2,3,6,7,8-HxCDD (11,000J ng/kg) 1,2,3,7,8,9-HxCDD (1,600J ng/kg) HxCDD (Total) (65,000J ng/kg) 1,2,3,4,6,7,8-HpCDD (240,000J ng/kg) HpCDD (Total) (1,100,000J ng/kg) OCDD (3,700,000J ng/kg) PeCDF (Total) (4,100J ng/kg) 1,2,3,4,7,8-HxCDF (5,200 ng/kg) HxCDF (Total) (80,000J ng/kg) 1,2,3,4,6,7,8-HpCDF (95,000 ng/kg) 1,2,3,4,7,8,9-HpCDF (5,400J ng/kg) HpCDF (Total) (750,000J ng/kg) OCDF (290,000J ng/kg)	11U µg/kg 11U µg/kg 330U µg/kg 330U µg/kg 330U µg/kg 330U µg/kg 330U µg/kg 38J µg/kg 330U µg/kg 330U µg/kg 330U µg/kg 0.60J ng/kg 2.1J ng/kg 3.9J ng/kg 21J ng/kg 87J ng/kg 240J ng/kg 3,200J ng/kg 2.3J ng/kg 0.45J ng/kg 7.9J ng/kg 8.8 ng/kg 0.78U ng/kg 36J ng/kg 20U ng/kg	10 µg/kg 10 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 330 µg/kg 5.0 ng/kg 5.0 ng/kg 5.0 ng/kg NA 5.0 ng/kg NA 10 ng/kg NA 5.0 ng/kg NA 5.0 ng/kg 5.0 ng/kg NA 10 ng/kg	10, pp. 2, 3, 4; 17, p. 1; 42, pp. 4, 7, 36, 39, 187, 189, 236, 237, 266, 267; 48, Exhibit C, p. 3-4

Sample Number	Hazardous Substance (Concentration)	Background Concentration	CRQL	Reference
PW-03-SB	Benzene (31 µg/kg)	11U µg/kg	10 µg/kg	10, pp. 2, 3, 4, 5; 42, pp. 4, 36, 42, 187, 191, 237, 239, 266, 268; 48, Exhibit C, p. 3-4
	Toluene (180 µg/kg)	11U µg/kg	10 µg/kg	
	Ethyl Benzene (150 µg/kg)	11U µg/kg	10 µg/kg	
	Isopropylbenzene (34 µg/kg)	11U µg/kg	10 µg/kg	
	Naphthalene (110,000 µg/kg)	330U µg/kg	330 µg/kg	
	2-Methylnaphthalene (48,000 µg/kg)	330U µg/kg	330 µg/kg	
	1,1-Biphenyl (15,000 µg/kg)	330U µg/kg	330 µg/kg	
	Acenaphthene (85,000 µg/kg)	330U µg/kg	330 µg/kg	
	Dibenzofuran (64,000 µg/kg)	330U µg/kg	330 µg/kg	
	Fluorene (70,000 µg/kg)	330U µg/kg	330 µg/kg	
	Phenanthrene (230,000 µg/kg)	38J µg/kg	330 µg/kg	
	Anthracene (32,000 µg/kg)	330U µg/kg	330 µg/kg	
	Carbazole (18,000 µg/kg)	330U µg/kg	330 µg/kg	
	Fluoranthene (94,000 µg/kg)	330U µg/kg	330 µg/kg	
	Pyrene (66,000 µg/kg)	330U µg/kg	330 µg/kg	
	Benzo(a)anthracene (12,000 µg/kg)	330U µg/kg	330 µg/kg	
	Chrysene (12,000 µg/kg)	330U µg/kg	330 µg/kg	
	PeCDD (Total) (25J ng/kg	0.46J ng/kg	NA	
	1,2,3,4,7,8-HxCDD (31J ng/kg)	0.60J ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDD (1,100 ng/kg)	2.1J ng/kg	5.0 ng/kg	
	1,2,3,7,8,9-HxCDD (190J ng/kg)	3.9J ng/kg	5.0 ng/kg	
	HxCDD (Total) (6,800J ng/kg)	21J ng/kg	NA	
	1,2,3,4,6,7,8-HpCDD (31,000J ng/kg)	87J ng/kg	5.0 ng/kg	
	HpCDD (Total) (130,000J ng/kg)	240J ng/kg	NA	
	OCDD (320,000J ng/kg)	3,200J ng/kg	10 ng/kg	
	2,3,7,8-TCDF (17J ng/kg)	0.16U ng/kg	1.0 ng/kg	
	TCDF (Total) (18J ng/kg)	0.54UJ ng/kg	NA	
	2,3,4,7,8-PeCDF (50J ng/kg)	0.20 ng/kg	5.0 ng/kg	
	PeCDF (Total) (610J ng/kg)	2.3J ng/kg	NA	
	1,2,3,4,7,8-HxCDF (170J ng/kg)	0.45J ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDF (78J ng/kg)	0.19U ng/kg	5.0 ng/kg	
	HxCDF (Total) (3,500J ng/kg)	7.9J ng/kg	NA	
	1,2,3,4,6,7,8-HpCDF (2,400 ng/kg)	8.8 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF (160J ng/kg)	0.78U ng/kg	5.0 ng/kg	
	HpCDF (Total) (12,000J ng/kg)	36J ng/kg	NA	
	OCDF (9,100J ng/kg)	20U ng/kg	10 ng/kg	

Sample Number	Hazardous Substance (Concentration)	Background Concentration	CRQL	Reference
PW-04-SB	Benzene (42 µg/kg)	11U µg/kg	10 µg/kg	10, pp.
	Toluene (310 µg/kg)	11U µg/kg	10 µg/kg	2, 3, 4;
	Ethyl Benzene (260 µg/kg)	11U µg/kg	10 µg/kg	42, pp.
	Styrene (200 µg/kg)	11U µg/kg	10 µg/kg	4, 36,
	Naphthalene (2,100,000 µg/kg)	330U µg/kg	330 µg/kg	48, 128,
	2-Methylnaphthalene (750,000 µg/kg)	330U µg/kg	330 µg/kg	131, 187,
	Acenaphthene (910,000 µg/kg)	330U µg/kg	330 µg/kg	193, 237,
	Dibenzofuran (650,000 µg/kg)	330U µg/kg	330 µg/kg	239, 266,
	Fluorene (760,000 µg/kg)	330U µg/kg	330 µg/kg	269; 48,
	Phenanthrene (2,600,000 µg/kg)	38J µg/kg	330 µg/kg	Exhibit
	Fluoranthene (1,000,000 µg/kg)	330U µg/kg	330 µg/kg	C, p. 3-4
	Pyrene (850,000 µg/kg)	330U µg/kg	330 µg/kg	
	PeCDD (Total) (84J ng/kg)	0.46J ng/kg	NA	
	1,2,3,4,7,8-HxCDD (71J ng/kg)	0.60J ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDD (2,000 ng/kg)	2.1J ng/kg	5.0 ng/kg	
	1,2,3,7,8,9-HxCDD (460J ng/kg)	3.9J ng/kg	5.0 ng/kg	
	HxCDD (Total) (17,000J ng/kg)	21J ng/kg	NA	
	1,2,3,4,6,7,8-HpCDD (59,000J ng/kg)	87J ng/kg	5.0 ng/kg	
	HpCDD (Total) (310,000J ng/kg)	240J ng/kg	NA	
	OCDD (900,000J ng/kg)	3,200J ng/kg	10 ng/kg	
	2,3,7,8-TCDF (25J ng/kg)	0.16U ng/kg	1.0 ng/kg	
	TCDF (Total) (25J ng/kg)	0.54U ng/kg	NA	
	2,3,4,7,8-PeCDF (60J ng/kg)	0.20 ng/kg	5.0 ng/kg	
	PeCDF (Total) (780J ng/kg)	2.3J ng/kg	NA	
	1,2,3,4,7,8-HxCDF (340J ng/kg)	0.45J ng/kg	5.0 ng/kg	
	HxCDF (Total) (6,300J ng/kg)	7.9J ng/kg	NA	
	1,2,3,4,6,7,8-HpCDF (5,600 ng/kg)	8.8 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF (510J ng/kg)	0.78U ng/kg	5.0 ng/kg	
	HpCDF (Total) (28,000J ng/kg)	36J ng/kg	NA	
	OCDF (22,000J ng/kg)	20U ng/kg	10 ng/kg	

Notes:

- J - Estimated value
- PW - Picayune Wood Treating
- SB - Subsurface soil sample
- µg/kg - Micrograms per kilogram
- ng/kg - Nanograms per kilogram
- U - Material was analyzed for but not detected, the concentration reported is the minimum quantitation limit
- CRQL - The contract-required quantitation limit (CRQL) is provided for organic compounds (Ref. 10); CRQLs used for dioxin and furan analyses are provided in Reference 48
- NA - Not available for total dioxins/furans
- PeCDD - Pentachlorodibenzodioxin
- HxCDD - Hexachlorodibenzodioxin
- HpCDD - Heptachlorodibenzodioxin
- OCDD - Octachlorodibenzodioxin
- TCDF - Tetrachlorodibenzofuran
- PeCDF - Pentachlorodibenzofuran
- HxCDF - Hexachlorodibenzofuran
- HpCDF - Heptachlorodibenzofuran
- OCDF - Octachlorodibenzofuran

2.4.2 Hazardous Waste Quantity

2.4.2.1.1 Hazardous Constituent Quantity

Insufficient information is available to calculate hazardous constituent quantity.

2.4.2.1.2 Hazardous Wastestream Quantity

Insufficient information is available to calculate hazardous wastestream quantity.

2.4.2.1.3 Volume

The combined volume of the three trench impoundments is 93,160 cubic feet (ft^3), or 700,000 gallons (Ref. 14, Section 2, p. 2). 93,160 ft^3 ÷ 27 ft^3/cubic yards (yd^3) = 3,450.37 yd^3.

Dimension of source (yd^3 or gallons): 3,450.37 yd^3
References(s): 1, Section 2.4.2.1.4, Table 2-5
Volume Assigned Value: 3,450.37 yd^3 ÷ 2.5 = 1,380.15

2.4.2.1.4 Area

Because source volume is adequately determined, source area is not evaluated (Ref. 1, Section 2.4.2.1).

Area Assigned Value: 0

2.4.2.1.5 Source Hazardous Waste Quantity Value

Source Hazardous Waste Quantity Value: 1,380.15
(Ref. 1, Section 2.4.2.1.5)

SITE SUMMARY OF SOURCE DESCRIPTIONS

Source Number	Source Hazardous Waste Quantity Value	Containment			
		Ground water	Surface Water	Gas	Air Particulate
1	>0	10	10	NS	NS
2	1,380.15	10	10	NS	NS

Notes: > = Greater than
NS= Not scored

Reference: 1, Section 2.4.2.1.5

Other Possible Sources

Several other potential on-site sources are located at the Picayune Wood Treating site. Inadequate information is available to evaluate these other potential sources in this HRS documentation record. The other potential on-site sources include:

- Old waste pit: this is a backfilled surface impoundment. The pit was used to store K001 waste and its associated contact cooling water (Ref. 19, pp. 7, 18, 23, 46). The pit was used for the deposition of wastewater treatment sludges from 1972, until it was backfilled in 1980 (Ref. 19, p. 46).

- Sand filter bed: for a short period during 1972, a sand filter bed unit was used to separate sludge from wastewaters at the facility (Ref. 5, p. 3). This unit consisted of a wooden containment structure encompassing a sand bed with a buried perforated pipe for drainage (Ref. 5, p. 3). Although this system was used at the facility only for a brief period, the sludges were not removed from this unit for several years (Ref. 5, p. 3). The sand filter bed, located between the office building and the process area, was approximately 60 feet long by 40 feet wide, and had an estimated depth of 1 foot (Refs. 18, p. 2; 22, p. 7). Subsurface soil samples collected in the area of the former sand filter bed indicated concentrations of pentachlorophenol, benzo(b)fluoranthene, and benzo(a)anthracene (Ref. 5, p. 5).

- Former condenser cooling water pond: this is a backfilled surface impoundment. The former condenser cooling water pond dates back to 1946, when the original plant was operating (Refs. 5, p. 3; 16, Volume 1, p. 38). During processes at the facility, water was removed from wood fibers and replaced with a wood preservative (Ref. 14, Section 1, p. 1). The facility primarily used the preservative creosote. However, from 1974 until 1982, pentachlorophenol was used in addition to creosote (Ref. 5, p. 2). The cooling water pond was used from 1946 until 1985 to hold creosote-contaminated wastewaters (Ref. 5, p. 3). The total capacity of the former cooling pond is 225,000 gallons or 30,000 cubic feet (ft^3) (Ref. 14, Section 2, p. 2).

- Chromated-copper arsenate facility: this facility is located on the southwest corner of the facility property, and west of Davis Street (Ref. 58, pp. 3, 4). This portion of the property was purchased by Kenson Treated Products, Inc. in October 1999 (Ref. 58, p. 1). This portion of the property was the location of the Southern Pine Wood Preserving, Inc. facility (Ref. 59, p. 1).

GROUND WATER MIGRATION PATHWAY

3.0 GROUND WATER MIGRATION PATHWAY

3.0.1 General Considerations

Aquifer of Concern No.I - Stratum Name: Citronelle Aquifer

Aquifer of Concern No. II - Stratum Name: Miocene Aquifer

Description:

Picayune Wood Treating in Picayune, Mississippi, is located in the Pine Meadows Belt of the East Gulf Coastal Plain Physiographic Province (Ref. 16, Vol 1, p. 25). This location is approximately 3 miles south of the boundary with the Southern Pine Hills Belt (Ref. 16, Vol. 1, p. 25). The Pine Meadows Belt is characterized by Pleistocene terraces featuring low, seaward- facing scarps and shallow swales bordered by slightly higher ground (Ref. 16, Vol. 1, p. 25). Surficial deposits in this belt are typically loam, sand, gravel, and clay (Ref. 16, Vol. 1, p. 25). The Southern Pine Hills Belt is characterized by largely uncut uplands separated by wide, steep-sided valleys of larger streams (Ref. 16, Vol. 1, p. 25). The average elevation of the ground surface at the site is approximately 59 feet above msl (Ref 16, Vol. 1, p. 25).

Geologic units that underlie the facility include, in descending stratigraphic order, the Pleistocene age Pamlico Sand, the Citronelle Formation or reworked Citronelle terrace material of Pleistocene or Pliocene age, and the Pliocene age Graham Ferry Formation (Ref. 16, Vol. 1, p. 25). The surficial Pamlico Sand is described as gray and tan sand with occasional lagoonal deposits of clay and silt (Ref. 16, Vol. 1, p. 25; 26, p. 38). The Pamlico Sand varies in thickness from 1 to 75 feet (Ref. 16, Vol. 1, p. 26; 26, p. 38). At the facility, the Pamlico Sand varies from 10.5 to 51 feet thick(Ref. 16, Vol. 1, p. 28). The Citronelle Formation is described as red quartz sand, chert gravel, and gravel-sand-clay mixtures;it ranges in thickness from a thin mantle to 160 feet (Ref. 16, Vol. 1, p. 26; 26, p. 38). Some thin clay strata also may be present. Beneath the facility, the Citronelle Formation ranges in thickness from 20 to 64 feet (Ref. 16, Vol. 1, p. 28). Underlying the Citronelle at depths of 69 to 75 feet is a continuous bed of high plasticity clay identified as the Graham Ferry Formation (Ref. 16, Vol. 1, p. 29). The Graham Ferry Formation is a silty clay, shale, silty sand, clean sand, and gravelly sand derived from both continental and marine deposits containing fossils (Ref. 16, Vol. 1, p. 27; 26, p. 38). The Graham Ferry Formation ranges in thickness from approximately 100 to 1,000 feet (Ref. 16, Vol. 1, p. 27). The thickness of the formation increases from east to west, and well logs for the vicinity indicate it is 100 to 300 feet thick (Ref. 16, Vol. 1, pp. 27, 29). Massive clay beds of very low permeability are common to the Graham Ferry Formation (Ref. 16, Vol. 1, p. 27).

The Citronelle aquifer is the uppermost aquifer at Picayune (Ref. 16, Vol. 1, p. 32). The aquifer is under semiconfined conditions and is bounded on the top by the semipervious Pamlico Sand and at the bottom by the impervious Graham Ferry Formation (Ref. 16, Vol. 1, p. 33). At the site, the Citronelle aquifer has an average thickness of 34 feet and is encountered at 20 to 64 feet bgs (Ref. 16, Vol. 1, pp. 28, 33; 54, p. 9). The hydraulic conductivity of the Citronelle aquifer at the facility has been determined to be 190 feet per day (Ref. 16, Vol. 1, p. 35). The general ground water flow direction at the facility is to the west (Ref. 27, p. 12)as influenced by the upper surface of the underlying Graham's Ferry Formation, which dips to the south-southwest (Ref. 54, p. 9). According to the USGS, 285 wells are located within a 4-mile radius of the site, of which 6 produce water from the Citronelle aquifer (Ref. 16, Vol. 1, p. 32). Wells completed in the Citronelle aquifer produce water primarily for domestic use (Ref. 29, p. 44).

The Graham Ferry Formation underlies the Citronelle aquifer and is 100 to 300 feet thick (Ref. 16, Vol. 1, p. 32). The formation has a measured permeability of 2.12 x 10^{-9} centimeters per second (Ref. 16, Vol. 1, p. 29). Therefore, this formation is an effective confining unit between the Citronelle aquifer and the underlying Miocene aquifers (Ref. 16, Vol. 1, p. 29).

The Miocene series underlies the Graham Ferry Formation and consists of the following units in descending stratigraphic order; the Pascagoula Formation, Hattiesburg Formation, and the Catahoula Sandstone (Ref. 26, p. 38). The Pascagoula Formation consists of a blue-green silt, sandy shale, gray and green sand, gray silty clay, and dark sandy gravel containing chert (Ref. 26, p. 38). This formation ranges in thickness from 800 to 1,300 feet and is encountered between 114 and 1,365 feet bgs (Ref. 26, p. 38). The Hattiesburg Formation consists of gray-green and blue-green shale and clay and gray sand and silt (Ref. 26, p. 38). The thickness of this formation ranges from 350 to 1,500 feet, and the unit is encountered between 914 and 2,665 feet bgs (Ref. 26, p. 38). The Catahoula Sandstone consists of shale, sandy shale, sand, clay and silt, and gravely sands containing black chert (Ref. 26, p. 38). The thickness of this formation ranges from 300 to 500 feet, and the unit is encountered between 1,264 and 4,165 feet bgs (Ref. 26, p. 38).

The Miocene Aquifer System (Miocene aquifers), which is part of the Coastal lowlands aquifer system, is the major supply of drinking and industrial water in the Picayune, Mississippi, area (Refs. 28, Segment 5, p. F13; 29, p. 5). Ground water in the Miocene aquifers occurs under unconfined or confined conditions depending on lithology and location (Ref. 29, p. 39). In Southern Mississippi, the Miocene aquifer tends to occur under confined conditions (Ref. 29, p. 39). Generally, ground water flow direction in this aquifer is southward or down dip (Ref. 29, p. 39). The individual sand beds forming the Miocene aquifers range in thickness from less than 10 feet to 450 feet, and the total thickness of the aquifers may range from 200 to 1,200 feet (Ref. 29, p. 44). The average hydraulic conductivity of the Miocene aquifers is about 100 feet per day (Ref. 29, p. 44). As a result of the high hydraulic conductivity and the thickness of the aquifers, some Miocene aquifer wells can yield more than 1,000 gallons per minute (Ref. 29, p. 44). In the facility area, the Miocene Aquifer System is encountered at about 169 to 375 feet bgs(Refs. 16, Vol. 1, pp. 29, 33; 54, pp. 9, 15).

3.1 LIKELIHOOD OF RELEASE

3.1.1 Observed Release

Aquifer Being Evaluated: Citronelle aquifer

Chemical Analysis

-Background Sample

Background ground water sample PW-01-MW (collected from on-site monitoring well PW-01-MW) was used to establish background conditions in the Citronelle aquifer (Refs. 11, p. 19; 16, Volume 1, p. 5). This well is upgradient of the former cooling water pond (see Figure 3) (Ref. 27, p. 12). Background ground water sample PW-01-MW was collected during the 2000 PA/SI (Ref. 11, p. 19). At the time of sampling, the depth to water in the well was recorded as 27.5 feet below the top of the well casing (Ref. 11, p. 19). This well has an elevation of 65.20 feet above mean sea level, and the depth to ground water in this well fluctuates throughout the year between 41 and 43 feet above mean sea level (Ref. 16, Volume 2, Exhibit 3). Because this well is located in the northern portion of the property, it was selected as a background well (see Figure 3) (Ref. 16, Volume 1, p. 5). In addition, this well is upgradient of all on-site sources. Ground water at the facility flows west, and on the far west of the facility, ground water flows to the southwest and northwest (Refs. 14, Section 1, p. 6; 16, Volume 1, pp. 29, 30, Volume 2, Exhibit 12).

Sample ID	Sample Date	Total Depth[a] (feet bgs)	Sample Location	References
PW-01-MW	4/06/00	68	North-central portion of facility property	11, p. 19

Notes:
[a] - The total well depth was measured from the top of the well casing to the bottom of the well (Ref. 11, p. 19).
bgs - Below ground surface
PW - Picayune Wood Treating
MW - Monitoring well

- Background Concentrations from 2000 PA/SI Sampling Event

Background ground water sample PW-01-MW was analyzed by an EPA CLP laboratory; analytical data sheets are provided in Reference 8, Appendix A. Data validation was conducted by the EPA Region 4 SESD, and QA/QC information is provided in Reference 8, Appendix A. CRDLs are provided for inorganic hazardous substances, and CRQLs are provided for organic hazardous substances. The CRDLs and CRQLs are listed in Reference 10.

Sample ID	Sample Date	Hazardous Substance	Concentration (µg/L)	CRDL/ CRQL (µg/L)	References
PW-01-MW	4/06/00	Copper	4.1U	25	Ref. 8, Tables 16, 17, Appendix A, pp. 17, 273, 502; 10, pp. 3, 4, 5, 7; 11, pp. 19, 20
		Lead	1.0U	3	
		Benzene	10U	10	
		Toluene	10U	10	
		Ethyl benzene	10U	10	
		Total xylenes	10U	10	
		Styrene	10U	10	
		2-Methylphenol	10U	10	
		(3-and/or 4-) Methylphenol	10U	10	
		Naphthalene	10U	10	
		2-Methylnaphthalene	10U	10	
		1,1-Biphenyl	10U	10	
		Acenaphthylene	10U	10	
		Acenaphthene	10U	10	
		Dibenzofuran	10U	10	
		Fluorene	10U	10	
		Pentachlorophenol	25U	25	
		Phenanthrene	10U	10	
		Anthracene	10U	10	
		Carbazole	10U	10	
		Pyrene	10U	10	
		Benzo(a)anthracene	10U	10	
		Chrysene	10U	10	

Notes:
PW - Picayune Wood Treating
µg/L - Micrograms per liter
CRDL - Contract-required detection limit
CRQL - Contract-required quantitation limit
MW - Monitoring well
U - Compound was analyzed for but not detected; the concentration reported is the minimum quantitation limit

- Contaminated Samples

The ground water samples listed in the table below were collected during the 2000 PA/SI from monitoring wells located on the facility property (Ref. 11, pp. 11, 12, 14, 15, 17). The depth to ground water as measured from the top of the well casing during field activities, was 25.3 feet in well PW-03-MW, 22.5 feet in well PW-04-MW, and 23.3 feet in well PW-05-MW (Ref. 11, pp. 11, 14, 16).

Sample ID	Sample Date	Total Depth[a] (feet bgs)	Sample Location	References
PW-03-MW	4/05/00	42	Southwest side of cooling pond	11, pp. 16, 17
PW-04-MW	4/04/00	46	Center of the facility property, adjacent to the office	11, p. 11
PW-05-MW	4/05/00	40.2	Southwest corner of trench/burial area (Source 2)	11, pp. 14, 15

Notes:
[a] - The total well depth was measured from the top of the well casing (Ref. 11, pp. 11, 14, 16).
bgs - Below ground surface
PW - Picayune Wood Treating
MW - Monitoring well

- Contaminated Concentrations

Analytical data sheets are provided in Reference 8, Appendix A; all samples were analyzed by an EPA CLP laboratory (Ref. 8, Appendix A). Data validation was conducted by the EPA Region 4 SESD, and QA/QC information is provided in Reference 8, Appendix A. For inorganic hazardous substances, CRDLs are provided, and for organic hazardous substances, CRQLs are provided. The CRDLs and CRQLs are listed in Reference 10.

Sample ID	Sample Date	Hazardous Substance	Concentration (µg/L)	CRDL/ CRQL (µg/L)	References
PW-03-MW	4/05/00	Copper	94	25	8, Tables 16, 17 Appendix A, pp. 19, 274, 504; 10, pp. 2, 3, 4, 5, 9; 11, pp. 16, 17
		Benzene	61	10	
		Toluene	160	10	
		Ethyl benzene	57	10	
		Total Xylenes	230	10	
		Styrene	60	10	
		2-Methylphenol	11	10	
		Naphthalene	7,000	10	
		Acenaphthylene	17	10	
		Pentachlorophenol	52	25	
		Anthracene	48	10	
		Pyrene	71	10	
		Benzo(a)anthracene	22	10	
		Chrysene	20	10	
PW-04-MW	4/04/00	Lead	16	10	8, Tables 16, 17, Appendix A, pp. 112, 275; 10, pp. 3, 4, 9; 11, p. 11
		Naphthalene	230	10	
		2-Methylnaphthalene	68	10	
		1,1-Biphenyl	22	10	
		Acenaphthene	69	10	
		Dibenzofuran	50	10	
		Fluorene	43	10	
		Phenanthrene	31	10	
		Carbazole	17	10	
PW-05-MW	4/05/00	Toluene	12	10	8, Table 17, Appendix A, pp. 21, 506; 10, pp. 2, 3, 4; 11, pp. 14, 15
		Total Xylenes	41	10	
		2-Methylphenol	22	10	
		(3-and/or 4-)Methylphenol	50	10	
		Naphthalene	1,600	10	
		2-Methylnaphthalene	330	10	
		1,1-Biphenyl	48	10	
		Acenaphthene	250	10	
		Pentachlorophenol	61	25	
		Phenanthrene	41	10	

Notes:
µg/L - Micrograms per liter
CRDL - Contract-required detection limits
CRQL - Contract-required quantitation limits
PW - Picayune Wood Treating
MW - Monitoring well

Attribution:

The facility was constructed by Crosby Forest Products Inc. in 1946 (Refs. 5, p. 2; 16, Volume 1, p.2). In 1973, the facility and approximately 30 acres of property was purchased by Wood Treating Inc. (Ref. 5, p. 2; 14, Section 1, p. 1; 16, Volume 1, p. 2). Since 1973, the facility has been involved in the treatment of yellow pine wooden poles for use in the utility and construction industries (Ref. 5, p. 2; 16, Volume 1, p. 2). The facility has always used creosote in this process; however, from about 1974 until 1982, pentachlorophenol also was used at the facility (Ref. 5, p. 2; 14, Section 1, p. 1; 16, Volume 1, p. 2).

Coal tar creosote is a distallate of coal tar produced by high temperature carbonization of bituminous coal (Ref. 23, p. 63). Coal tar creosote is the most widely used wood preservative in the United States. Coal tar creosote contains as many as 300 chemicals (Ref. 23, p. 1). It is usually an oily liquid that is amber to brown in color (Ref. 23, p. 2). Creosote is typically composed of approximately 85 percent polycyclic aromatic hydrocarbons (PAH), and 2 percent to 17 percent phenolics (Ref. 23, p. 63). The creosote used at Picayune was obtained from Allied Signal Inc. and made up of the following chemical compounds: coumarone, p-cymene, indene, phenol, o-cresol, benzonitrile, m-cresol, naphthalene, thionaphthene, quinoline, 2-methylnaphthalene, isoquinoline, 1-methylnaphthalene, 4-indanol, 2-methylquinoline, indole, diphenyl, 1,6-dimenthylnaphthalene, 2,3-dimenthynaphthalene, acenaphthene, dibenzofuran, fluorene, 1-naphthonitrile, 3-methyldiphenylene, 2-naphthonitrile, 9,10-dihydroanthracene, 2-methylfluorene, diphenylene sulfide, phenanthrene, anthracene, acridene, 3-methylphenanthrene, carbazole, 4,5-methylenephenanthrene, 2-methylanthracene, 9-methylanthracene, 2-methylcarbazole, fluoranthene, 1,2-benzodiphenylene, pyrene, benzofluorene, and chrysene (Ref. 36, pp. 53, 54, 55, 57, 58).

The wood preserving process employed by the facility involved preparing raw materials, conditioning, and impregnating them with the preservative (Ref. 16, Volume 1, pp. 2, 3). Raw lumber was debarked prior to the conditioning cycle (Ref. 19, p. 3). The conditioning cycle involved steam and vacuum conditioning, where wood was placed inside the pressure impregnation retort and heated to 245 $^{\circ}$F, then saturated with steam for a period of 10 to 16 hours (Ref. 19, p. 6). The condensate was constantly bled from the retort (Refs. 19, p. 6; 16, Volume 1, p. 3). After the steaming process, the retort was vented to the outside atmosphere, and a vacuum pressure of 23 inches of mercury was applied as rapidly as possible for 2 to 3 hours (Refs. 16, Volume 1, p. 3; 19, p. 6). Cooling water from the steaming process was then stored in the unlined cooling water pond, which was constructed in 1946 (Refs. 16, Volume 1, p. 3; 19, p. 6). After 1985, the process was modified and the contact cooling water was no longer generated; instead, only a small amount of non-contact cooling water was necessary (Refs. 16, Volume 1, p. 3; 19, p. 6). Condensable liquids were then collected and pumped to an on-site wastewater treatment system (Refs. 16, Volume 1, p. 3; 19, p. 6).

Upon completion of the conditioning cycle, the retort was then filled with preservative (Refs. 16, Volume 1, p. 3; 19, p. 6). The wood was then impregnated with the preservative by raising the pressures to 150 to 200 pounds per square inch gaged (Refs. 16, Volume 1, p. 3; 19, p. 6). After the pressure treatment cycle was completed, the finished wood was removed from the retort and stored to allow the internal pressure to equalize (Ref. 19, pp. 6, 7). During pressure equalization, internal pressures forced excess preservative out of the wood (Refs. 16, Volume 1, p. 4; 19, p. 7). Excess preservative and water from the steaming cycle were placed in the former cooling water pond (Ref. 19, p. 7). Sludges that accumulated in the bottom of the impoundment were said to contain K001 wastes (Refs. 5, p. 3; 14, Section 2, p. 2; 16, Vol. 1, p. 4; 19, p. 7; 53, p. 1). K001 waste is made up of bottom sediment sludges formed from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol (Ref. 5, p. 3; 52, p.

267). K001 waste contains one or more of the following constituents: pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichlorophenol, tetrachlorophenol, creosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(a)anthracene, indeno(1,2,3-cd)pyrene, dibenzo(a)anthracene, or acenaphthalene (Ref. 5, p. 3). The cooling water pond, located in the northern portion of the facility, was used for facility operations from 1946 until 1985, however, prior to 1973, specific operations at the facility are unknown (Ref. 5, p. 3).

Another wood preserving company is located at 1900 Rosa Street in Picayune (Ref. 45). Kenson Wood Preserving L.L.C., (formerly Pearl River Wood Preserving) is approximately 0.75 mile west and downgradient of Picayune (Refs. 3; 45; 59, p. 1). Kenson operates as an active facility and is listed as a large quantity generator operating under Handler ID No. MSD008194144 (Refs. 46; 47). Processes include wood preserving using creosote and/or pentachlorophenol, along with arsenic and chromium (Refs. 46, p. 2; 52, p. 267).

Hazardous Substances Released:

Copper	Benzo(a)anthracene
Lead	(3-and/or 4-)Methylphenol
Benzene	Naphthalene
Toluene	Acenaphthylene
Ethylbenzene	Acenaphthene
Total Xylenes	Dibenzofuran
Styrene Fluorene	Phenanthrene
Pentachlorophenol	
Anthracene	
Carbazole	
Pyrene	

- Level I Samples

No Level I concentrations have been documented in samples collected from drinking water wells completed in the Citronelle aquifer.

3.1.2 Potential to Release

AQUIFER OF CONCERN No.I - Stratum Name: Citronelle Aquifer

Potential to release was not evaluated for the Citronelle aquifer because an observed release has been documented (see Section 3.1.1 of this documentation record).

AQUIFER OF CONCERN NO. II - Stratum Name: Miocene Aquifer

Potential to release was evaluated for the Miocene Aquifer because no observed release has been documented.

3.1.2.1 Containment

A release of polycyclic aromatic hydrocarbons (PAHs) occurred to ground water beneath the facility. No liner system is in place beneath the sources to prevent releases to ground water. This information, applied to Table 3-2 in Reference 1, yields a containment value of 10.

On September 8, 1998, and again on October 1, 1998, the MDEQ conducted a CEI of the facility and determined that the facility did not have a drip pad for creosote treatment; multiple areas of excess drippage were noted (Refs. 5, p. 7; 6, p. 2; 7, p. 4).

Additionally, ground water monitoring well PW-05-MW, located downgradient of Source 2 and sampled during the PA/SI, contained elevated concentrations of the following contaminants: toluene, total xylenes, 2-methylphenol, (3-and/or 4-_methylphenol, naphthalene, 2-methylnaphthalene, 1,1-biphenyl, acenaphthene, dibenzofuran, fluorene, pentachlorophenol, phenanthrene, and carbazole (Ref. 8, Appendix A, pp. 21, 506).

Containment value: 10

Reference: 1, Table 3-2, Section 3.1.2.1

3.1.2.2 Net Precipitation

The facility is located in Picayune, Mississippi; therefore, based on Figure 3-2 of Reference 1, a net preciptiation factor value of 6 is assigned (Refs. 1, Figure 3-2; 3).

Precipitation Factor Value: 6
(Ref. 1, Figure 3-2)

3.1.2.3 Depth to Aquifer

The Miocene aquifer is encountered at about 169 to 375 feet bgs in the vicinity of the facility (Refs. 16, Vol. 1, pp. 29, 33; 54, pp. 9, 13, 15). The lowest documented point of site-related hazardous substances is 8 feet bgs. Therefore:

375 feet - 8 feet = 367 feet

Depth to Aquifer Factor Value: 1
(Ref. 1, Table 3-5)

3.1.2.4 Travel Time

The Miocene aquifer lies about 169 to 375 feet bgs in the vicinity of the facility (Refs. 16, Vol. 1, pp. 29, 33; 54, pp. 9, 15). The thickness of the lowest hydraulic conductivity layer, which is clay in the Graham's Ferry Formation, is 100 to 300 feet (Ref. 16, Vol. 1, p. 29). The hydraulic conductivity of the Graham's Ferry Formation is measured at 2.12×10^{-9} (Refs. 16, Volume 1, p. 29; 54, p. 15).

Travel Time Factor Value: 1
(Ref. 1, Table 3-7)

3.1.2.5 Calculation of Potential to Release Factor Value

Based on Reference 1, Table 3-1, the calculation of the potential to release factor value (FV) is derived as follows:

Containment FV x (Net Precipitation FV + Depth to Aquifer FV + Travel Time)
10 (6 + 1 + 1) = 80

Potential to Release: 80
(Ref. 1, Table 3-1)

==========

Ground Water Observed Release Factor Value (Citronelle Aquifer) : 550
Ground Water Observed Release Factor Value (Miocene Aquifer): 80

3.2 WASTE CHARACTERISTICS

3.2.1 Toxicity/Mobility

Hazardous Substance	Source No.	Toxicity Factor Value	Mobility Factor Value	Toxicity/ Mobility Value	Reference
Arsenic	1	10,000	0.01	100	2, p. BI-1
Copper	1, 2	NA	1*	--	2, p. BI-3
Lead	1	10,000	1*	10,000	2, p. BI-8
Nickel	1	10,000	0.01	100	2, p. BI-9
Mercury	1	10,000	0.01	100	2, p. BI-8
Cyanide	1	100	1	100	2, p. BI-4
Benzene	1, 2	1,000	1*	1000	2, p. BI-2
Toluene	1, 2	10	1*	10	2, p. BI-11
Ethyl benzene	1, 2	10	1*	10	2, p. BI-6
Total xylenes	1	100	1*	100	2, p. BI-12
Styrene	1, 2	10	1*	10	2, p. BI-10
Isopropylbenzene (Cumene)	2	10	0.01	0.1	2, p. BI-3
(3 and/or 4-) Methylphenol	Observed Release	100	1*	100	2, p. BI-9
Naphthalene	1, 2	1,000	1*	1000	2, p. BI-9
2-Methylnaphthalene	1, 2	NA	1*	--	2, p. BI-9
1,1-Biphenyl	1, 2	NA	1*	--	
Acenaphthylene	1	NA	1*	--	2, p. BI-1
Acenaphthene	1, 2	10	1*	10	2, p. BI-1
Dibenzofuran	1, 2	1,000	1*	1000	2, p. BI-4
Fluorene	1, 2	100	1*	100	2, p. BI-6
Pentachlorophenol	1	100	1*	100	2, p. BI-9
Phenanthrene	1, 2	NA	1*	--	2, p. BI-10
Anthracene	1, 2	10	1*	10	2, p. BI-1
Carbazole	1, 2	10	0.01	0.1	2, p. BI-2
Fluoranthene	1, 2	100	1.0E-4	0.01	2, p. BI-2
Pyrene	1, 2	100	1.0E-4	0.01	2, p. BI-10
Benzo(a)anthracene	1, 2	1,000	1*	1,000	2, p. BI-2
Chrysene	1, 2	10	1*	10	2, p. BI-3
Bis(2-ethylhexyl)phthalate	2	100	1.0E-4	0.01	2, p. BI-2
Di-n-octylphthalate	2	100	1.0E-4	0.01	2, p. BI-4
Benzo(b)fluoranthene	1	NA	NA	--	
Benzo(k)fluoranthene	1	100	1.0E-4	0.01	2, p. BI-2
Benzo(a)pyrene	1	10,000	1.0E-4	1	2, p. BI-2
Indeno(1,2,3-cd)pyrene	1	1,000	1.0E-4	0.1	2, p. BI-8
Benzo(ghi)perylene	1	NA	1.0E-4	NA	2, p. BI-2
2,3,7,8-TCDD	1	10,000	1.0E-4	1	2, p. BI-10
1,2,3,7,8-PeCDD	1	10,000	1.0E-4	1	2, p. BI-9
1,2,3,4,7,8-HxCDD	1, 2	10,000	1.0E-4	1	2, p. BI-7
1,2,3,6,7,8-HxCDD	1, 2	10,000	1.0E-4	1	2, p. BI-7
1,2,3,7,8,9-HxCDD	1, 2	10,000	1.0E-4	1	2, p. BI-7

Hazardous Substance	Source No.	Toxicity Factor Value	Mobility Factor Value	Toxicity/ Mobility Value	Reference
1,2,3,4,6,7,8-HpCDD	1, 2	10,000	1.0E-4	1	2, p. BI-7
OCDD	1, 2	NA	NA	--	
2,3,7,8-TCDF	2	10,000	1.0E-4	1	2, p. BI-11
2,3,4,7,8-PeCDF	1, 2	10,000	1.0E-4	1	2, p. BI-9
1,2,3,6,7,8-HxCDF	1, 2	10,000	NA	--	2, p. BI-8
1,2,3,7,8,9-HxCDF	1	10,000	NA	--	2, p. BI-8
2,3,4,6,7,8-HxCDF	1	10,000	NA	--	2, p. BI-8
1,2,3,4,6,7,8-HpCDF	1, 2	10,000	1.0E-4	1	2, p. BI-7
1,2,3,4,7,8,9-HpCDF	1, 2	10,000	NA	--	2, p. BI-7
OCDF	1	NA	NA	--	

Notes:

*	- A mobility factor value of 1 was assigned based on the presence of the hazardous substance in an observed release to the Citronelle aquifer (Ref. 1, Section 3.2.1.2).
NA	- Value not available
--	- A toxicity/mobility factor value could not be calculated
TCDD	- Tetrachlorodibenzodioxin
PeCDD	- Pentachlorodibenzodioxin
HxCDD	- Hexachlorodibenzodioxin
HpCDD	- Heptachlorodibenzodioxin
OCDD	- Octachlorodibenzodioxin
TCDF	- Tetrachlorodibenzofuran
PeCDF	- Pentachlorodibenzofuran
HxCDF	- Hexachlorodibenzofuran
HpCDF	- Heptachlorodibenzofuran
OCDF	- Octachlorodibenzofuran

==========

Toxicity/Mobility Factor Value: 10,000
Reference: 1, Section 3.2.1.3, Table 3-9

3.2.2 Hazardous Waste Quantity

Source Number	Source Hazardous Waste Quantity Value (Section 2.4.2.1.5)	Are source hazardous constituent quantity data complete? (yes/no)
1	>0	No
2	1,380.15	No

Note: > - Greater than

Sum of values: 1,380.15
Hazardous Waste Quantity Factor Value: 100
(Ref. 1, Section 2.4.2.2, Table 2-6)

3.2.3 Waste Characteristics Factor Category Value

Toxicity/Mobility Factor Value: 10,000
Hazardous Waste Quantity Factor Value: 100
(Ref. 1, Section 2.4.2.2, Table 2-6)

Toxicity/Mobility Factor Value (10,000)
x Hazardous Waste Quantity Factor Value (100): 1,000,000

Waste Characteristics Factor Category Value: 32
(Ref. 1, Section 2.4.3.1, Table 2-7)

3.3 TARGETS

AQUIFER OF CONCERN No.I - Stratum Name: Citronelle Aquifer

According to the USGS, 6 wells produce water from the Citronelle aquifer (Ref. 16, Vol. 1, p. 32). However, the locations of the 6 wells in the Citronelle aquifer has not been confirmed.

AQUIFER OF CONCERN NO. II - Stratum Name: Miocene Aquifer

Municipal drinking water within a 4-mile radius of the facility is obtained from either the City of Picayune, Dixie Utilities, or the Nicholson Water System (Refs. 15, pp. 2, 3, 4, 5, 19, 20, 21; 30).

The City of Picayune maintains four operating municipal drinking water wells. The water in this system is blended prior to distribution and serves a total of 4,200 connections or approximately 10,683 persons (Ref. 15, pp. 3, 4). Additionally, no well provides more than 40 percent of the total water supply (Refs. 15, pp. 3, 4; 30, pp. 2, 3). Therefore, it was assumed that approximately 2,671 persons are supplied water by each City of Picayune drinking water well. The two nearest drinking water wells are located immediately east and within 0.25 mile of the facility (Refs. 3; 15, p. 4). The nearest wells are City of Picayune Well 1 and City of Picayune Well 2, which are 1,350 feet deep and 1,150 feet deep, respectively. City of Picayune Well 3 is no longer in service. City of Picayune Well 5 is located approximately 0.60 mile south of the facility and is 1,211 feet deep. City of Picayune Well 4 is located approximately 1.75 miles northeast of the facility and is 1,218 feet deep (Refs. 3; 15, pp. 3, 4; 30, pp. 2, 3, 4).

Dixie Utilities maintains two wells that serve the Timberlane Virginia and Westchester Heights subdivisions. The water from these wells is not mixed prior to distribution. The wells are located between 2 and 3 miles north-northwest of the facility and are 365 feet deep. According to the 2000 U.S. Bureau of the Census, the persons-per-household value is 2.65 for Pearl River County, Mississippi; therefore, combined, the Dixie Utility wells serve a total of 275 connections or approximately 729 persons (Refs. 3; 15, p. 2; 31, p. 2).

The Nicholson Water & Sewer Association operates two drinking water wells located approximately 3.1 miles south of the facility. Both wells are 490 feet deep, and the water is blended prior to distribution. Together, these wells serve a total of 700 connections or approximately 1,855 persons (Refs. 3; 15, p. 21; 31, p. 2).

Areas within a 4-mile radius of the facility that are not provided potable water by a community or municipal water system are assumed to use private wells. A house count was conducted using topographic quadrangle maps of the area, and the Pearl River County multiplier of 2.65 persons per household (Refs. 3; 31, p. 2). Therefore, an estimated 1,699 residents are assumed to obtain potable water from private wells located within 4 miles of the Picayune Wood Treating and are distributed as follows: 0 to 0.25 mile, 0 persons; 0.25 to 0.5 mile, 0 persons; 0.5 to 1 mile, 0 persons; 1 to 2 miles, 276 persons; 2 to 3 miles, 731 persons; and 3 to 4 miles, 692 persons (Refs. 3; 15, p. 4; 31, p. 2).

3.3.1 Nearest Well

AQUIFER OF CONCERN No.I - Stratum Name: Citronelle

No drinking water wells are documented in this aquifer.

Nearest Well Factor: 0
(Ref.1, Table 3-11)

AQUIFER OF CONCERN NO. II - Stratum Name: Miocene

The two nearest drinking water wells are located immediately northeast and within 0.25 mile of the facility (Refs. 3; 15, p. 4; 30, pp. 2, 4). The nearest wells are City of Picayune Well 1 and City of Picayune Well 2, which are 1,350 feet deep and 1,150 feet deep, respectively (Ref. 30, p. 2).

Level of Contamination: Potential

==========

Nearest Well Factor Value: 20
Reference: 1, Table 3-4, Section 3.3.1

3.3.2 Population

3.3.2.1 Level of Contamination

3.3.2.2 Level I Concentrations

No Level I concentrations have been documented in samples collected from drinking water wells.

==========

Population Served by Level I Wells: 0
Level I Concentrations Factor Value: 0
Reference: 1, Section 3.3.2.2

3.3.2.3 Level II Concentrations

No Level II concentrations have been documented in samples collected from drinking water wells.

==========

Population Served by Level II Wells: 0
Level II Concentrations Factor Value: 0
Reference: 1, Section 3.3.2.3

3.3.2.4 Potential Contamination

AQUIFER OF CONCERN NO. I - Stratum Name: Citronelle

No potential contamination targets were identified for this evaluation.

AQUIFER OF CONCERN NO. II - Stratum Name: Miocene

Distance-weighted population values were determined for non-karst conditions (see Section 3.0.1 of this Documentation Record). The calculations used to determine the potentially affected ground water population are presented below.

Mile Radius	Number of Wells x People/Well	Population Served
0 - 1/4 mile	City of Picayune Well 1 (2,671 people/well) City of Picayune Well 2 (2,671 people/well)	5,342
1/4 - 1/2 mile	City of Picayune Well 3 (Out of Service)	0
1/2 - 1 mile	City of Picayune Well 5 (2,671 people/well)	2,671
1 - 2 miles	City of Picayune Well 4 (2,671 people/well) 276 people on private wells	2,947
2 - 3 miles	Dixie Utilities (2 wells serving 275 connections or 729 people) 731 people on private wells	1,460
3 - 4 miles	Nicholson Water & Sewer (2 wells serving 700 connections or 1,855 people) 692 people on private wells	2,547

References: 3; 15, pp. 2, 3, 4, 5, 19, 20, 21; 30, pp. 2, 3, 4; 31, p. 2)

Distance Category	Population	Distance-Weighted Population Value	Reference(s)
0 - 0.25 mile	5,342	5,214	1, Table 3-12; 3; 15, pp. 4, 5;
0.25 - 0.50 mile	0	0	1, Table 3-12; 3; 30, p. 2
0.50 - 1 mile	2,671	523	1, Table 3-12; 3;
1 - 2 miles	2,947	294	1, Table 3-12; 3; 30, p. 2; 31, p. 2
2 - 3 miles	1,460	212	1, Table 3-12; 3; 31, p. 2
3 - 4 miles	2,547	131	1, Table 3-12; 3; 30, p. 2; 31, p. 2

Sum of Distance-Weighted Population Values: 6,374
x 0.1 (as applied to Reference 1 Section 3.3.2.4) = 637.4

Potential Contamination Factor Value: 637
Reference: 1, Section 3.3.2.4

3.3.3 Resources

No documentation indicates that ground water within 4 miles of the facility is used for commercial livestock watering, commercial food or forage crop irrigation, or commercial aquaculture, as an ingredient in commercial food preparation, or as a supply for a major water recreation area.

Resources Factor Value: 0
Ref.: 1, Section 3.3.3

3.3.4 Wellhead Protection Area

AQUIFER OF CONCERN NO. I - Stratum Name: Citronelle

No wellhead protection areas were identified for this aquifer.

AQUIFER OF CONCERN NO. II - Stratum Name: Miocene

No documentation indicates that a wellhead protection area is within 4 miles of the facility.

==========

Wellhead Protection Area Value: 0

4.1 OVERLAND/FLOOD MIGRATION COMPONENT

4.1.1.1 DEFINITION OF HAZARDOUS SUBSTANCE MIGRATION PATH FOR OVERLAND/FLOOD COMPONENT

Surface water runoff at the facility enters drainage ditches located throughout the facility property. These drainage ditches and associated culverts traverse the property in different directions and empty into Mill Creek at different locations.

Drainage from the northern portion of the facility property flows east via a drainage ditch and empties into Mill Creek (Ref. 37, p. 7). Drainage from the pressure treating area in the central portion of the facility property also flows east via another drainage ditch that converges with the first drainage ditch and flows into Mill Creek. This convergence with Mill Creek is considered probable point of entry (PPE) 1 (Refs. 15, p. 15; 16, Volume 1, p. 27). Surface water drainage from the central portion of the facility property flows south through a drainage ditch and enters Mill Creek directly north of George Washington Carver Park at PPE 2. Surface water runoff from the surface impoundments (Source 2) located on the western portion of the property flows south and southwest through drainage ditches and eventually into Mill Creek (Refs. 14, Section 2, pp. 6, 7; 38, p. 8).

Mill Creek in the vicinity of the facility is also known by local residents as Creosote Creek (Ref. 33). From PPE 1, Mill Creek flows southwest for approximately 3 miles beyond the facility property where it intersects the McCall River, which flows southeast for less than 0.25 mile before converging with the Pearl River. The Pearl River flows southeast for more than 13 miles, completing the 15-mile surface water migration pathway target distance limit (Ref. 3). The flow rate for Mill Creek is estimated to be less than 100 cubic feet per second (cfs) (Ref. 38, pp. 3, 5, 7, 13, 14). The flow rate for the McCall River is not known. The flow rate for the Pearl River is approximately 9,962 cfs (Ref. 20, p. 115). Therefore, the flow rate for the McCall River most likely would be less than or equal to 9,962 cfs (Refs. 3; 20, p. 115).

The soils located on the eastern portion of the facility property in the vicinity of Source 1 and from within Mill Creek are comprised of Escambia fine sandy loam with 0 to 2 percent slopes (Ref. 9, p. 18, General Soil Map). These soils are nearly level, and somewhat poorly drained (Ref. 9, p. 18). These soils are seasonally wet, with low permeability (Ref. 9, pp. 18, 19, 96, 101, 104, 107, 109).

The soils located on the western portion of the facility property in the area of Source 2 are comprised of the Smithton sandy loam series (Ref. 9, p. 32, General Soil Map, Plate 61). These soils are poorly drained, and runoff is moderately slow (Ref. 9, p. 32). These soils make up broad wet flats and gently sloping low ridges (Ref. 9, p. 5, General Soil Map). In addition, these soils are prone to flooding (Ref. 9, pp. 5, 32, 98, 103, 106, 108, 111, 120, General Soil Map).

South of the facility, and south of Mill Creek within George Washington Carver Park are soils comprised of Escambia fine sandy loam with 0 to 2 percent slopes (Ref. 9, p. 18, General Soil Map). These soils are nearly level, and somewhat poorly drained (Ref. 9, p. 18). These soils are seasonally wet, with low permeability (Ref. 9, pp. 18, 19, 96, 101, 104, 107, 109). George Washington Carver Park is prone to flooding (Refs. 38, pp. 3, 15; 39, p. 3).

A storm water drain enters Mill Creek on the northeast corner of George Washington Carver Park (Ref. 38, p. 3). This drain flows underneath Rosa Street, traverses the park and empties into Mill Creek (Ref. 38, p. 3). Although this drainage ditch empties into Mill Creek, during rainy periods, Mill Creek backs up into this ditch (Refs. 15, p. 32; 38, p. 15). A sediment sample (PW-24-SD) collected from this ditch during the April 2000 PA/SI indicated the presence of lead, phenanthrene, anthracene, carbazole, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, and benzo(k)fluoranthene (Refs. 8, Figure 3, Appendix A, pp. 5, 194, 324; 15, p. 32). This sample was collected approximately 125 feet upgradient of the confluence with Mill Creek (see Figure 3) (Ref. 8, Figure 3).

A soil sample (PW-05-SB), collected from at depth of one to two feet bgs, and from within George Washington Carver Park during the 2000 PA/SI indicated the presence of phenanthrene, fluoranthene, pyrene, chrysene, benzo(k)fluoranthene, and benzo(a)pyrene (Refs. 8, Appendix A, p. 78; 11, p. 5). This sample was collected from a location adjacent to playground equipment (Ref. 11, p. 5). It is not clear how site-related hazardous substances came to be located in soils at the George Washington Carver Park other than possible flooding; however, there is no known previous industrial use of the park. During 1951, residences were located south of the Picayune facility and Mill Creek, in the vicinity of what is now George Washington Carver Park (Refs. 38, p. 11; 44, pp. 3, 4).

During the November 2002 sampling event, a surface soil sample (PW-06-SS) was collected from the drainage ditch at a location approximately 200 feet south (upgradient) of the confluence with Mill Creek (see Figure 5). The surface soil sample indicated the presence of tetrachlorodibenzodioxin (total), 1,2,3,7,8-pentachlorodibenzodioxin, pentachlorodibenzodioxin (total), 1,2,3,4,7,8-hexachlorodibenzodioxin, 1,2,3,6,7,8-hexachlorodibenzodioxin, 1,2,3,7,8,9-hexachlorodibenzodioxin, hexachlorodibenzodioxin (total), octachlorodibenzodioxin, 2,3,7,8-tetrachlorodibenzofuran, tetrachlorodibenzofuran (total), 1,2,3,7,8-pentachlorodibenzofuran, 2,3,4,7,8-pentachlorodibenzofuran, pentachlorodibenzofuran (total), 1,2,3,4,7,8-hexachlorodibenzofuran, 1,2,3,6,7,8-hexachlorodibenzofuran, hexachlorodibenzofuran (total), 1,2,3,4,6,7,8-heptachlorodibenzofuran, 1,2,3,4,7,8,9-heptachlorodibenzofuran, heptachlorodibenzofuran (total), and octachlorodibenzofuran (Ref. 42, pp. 237, 241, 248).

Surface soil sample PW-07-SS collected as part of sampling activities conducted in November 2002 indicated elevated concentrations of 1,2,3,4,7,8-hexachlorodibenzodioxin, 1,2,3,6,7,8-hexachlorodibenzodioxin, 1,2,3,7,8,9-hexachlorodibenzodioxin, 1,2,3,4,7,8-hexachlorodibenzofuran, 1,2,3,6,7,8-hexachlorodibenzofuran, 1,2,3,4,6,7,8-heptachlorodibenzofuran, 1,2,3,4,7,8,9-heptachlorodibenzofuran, and octachlorodibenzofuran (Ref. 42, pp. 238, 241, 249). This sample was collected from within George Washington Carver Park, and adjacent to Rosa Street (Ref. 37, p. 3).

4.1.2.1 LIKELIHOOD OF RELEASE

4.1.2.1.1 Observed Release

Chemical Analysis

- Background Sample (April 2000 PA/SI Sampling)

Sample ID	Sampling Location	Depth[A] (Inches)	Date	Reference(s)
PW-01-SD	Mill Creek, approximately 250 feet upstream of the facility	0 - 6	4/06/00	8, Table 5; 15, p. 40

Notes:
PW - Picayune Wood Treating
SD - Sediment sample
[A] - Collected below the surface water-sediment interface

The 2000 PA/SI focused on the impact that facility sources have on Mill Creek and other downstream water bodies. The table above presents information on background sediment sample collected upstream of the facility during the 2000 PA/SI (Refs. 8; 15, pp. 32, 40).

- Background Concentrations (April 2000 PA/SI Samples)

Sample ID	Hazardous Substance	Concentration	CRDL/ CRQL	Reference(s)
PW-01-SD	Cyanide	0.52U mg/kg	0.5 mg/kg	8, Appendix A, pp. 12, 150, 302, 421; 10, pp. 2, 3, 4, 5, 9
	Ethyl benzene	12U µg/kg	10 µg/kg	
	Total xylenes	12U µg/kg	10 µg/kg	
	Naphthalene	1,900U µg/kg	330 µg/kg	
	2-Methylnaphthalene	1,900U µg/kg	330 µg/kg	
	Acenaphthene	1,900U µg/kg	330 µg/kg	
	Dibenzofuran	1,900U µg/kg	330 µg/kg	
	Fluorene	1,900U µg/kg	330 µg/kg	
	Phenanthrene	1,900U µg/kg	330 µg/kg	
	Anthracene	1,900U µg/kg	330 µg/kg	
	Carbazole	1,900U µg/kg	330 µg/kg	
	Fluoranthene	1,900U µg/kg	330 µg/kg	
	Pyrene	2,400* µg/kg	330 µg/kg	
	Benzo(a)anthracene	1,900U µg/kg	330 µg/kg	
	Chrysene	1,900U µg/kg	330 µg/kg	
	Benzo(b)fluoranthene	1,900U µg/kg	330 µg/kg	
	Benzo(k)fluoranthene	1,900U µg/kg	330 µg/kg	

Notes:

PW - Picayune Wood Treating
SD - Sediment sample
CRDL/ CRQL - Contract-required detection limits (CRDL) are provided for inorganic constituents, and contract-required quantitation limits (CRQL) are provided for the organic compounds (Ref. 10).
mg/kg - Milligrams per kilogram
U - Material was analyzed for but not detected; the value reported is the minimum detection limit
µg/kg - Micrograms per kilogram
* - Estimated values were adjusted in accordance with Reference 21 (See Reference 24)

The sediment sample listed in the previous table was collected from Mill Creek during the 2000 PA/SI conducted by Tetra Tech START on behalf of EPA (Ref. 8).

Analytical data sheets are provided in Reference 8, Appendix A; all samples were analyzed by an EPA CLP laboratory (Ref. 8, Appendix A). Data validation was conducted by the EPA Region 4 SESD, and QA/QC information is provided in Reference 8, Appendix A. All samples were collected in accordance with procedures documented in the EPA SESD Region 4 EISOPQAM (May 1996) (Refs. 8, p. 10; 15, p. 24).

- Observed Release Samples (April 2000 Samples)

Sample ID	Sampling Location	Depth (Inches)[A]	Date	Reference(s)
PW-08-SD	Wetlands along Mill Creek, north of the basketball court at the George Washington Carver Park.	ND	4/04/00	8, Table 5; 15, p. 30
PW-11-SD	Wetlands along Mill Creek approximately 15 yards north of the Rosa Street Bridge	ND	4/03/00	8, Table 5; 15, pp. 24, 25

Notes:
[A] - Collected below the surface water-sediment interface
PW - Picayune Wood Treating
SD - Sediment sample
ND - Not documented

Sediment samples presented in the preceding table were collected during the 2000 PA/SI from the wetland area located on Mill Creek (Refs. 3; 8).

Analytical data sheets are provided in Reference 8, Appendix A; all samples were analyzed by an EPA CLP laboratory (Ref. 8, Appendix A). Data validation was conducted by the EPA Region 4 SESD, and QA/QC information is provided in Reference 8, Appendix A. All samples were collected in accordance with procedures documented in the EPA SESD Region 4 EISOPQAM (May 1996) (Refs. 8, p. 10; 15, p. 24).

- Observed Release Concentrations (April 2000 Samples)

Sample ID	Hazardous Substance	Concentration	CRDL/ CRQL	Reference(s)
PW-08-SD	Cyanide	0.89 mg/kg	0.5 mg/kg	8, Table 20, Table 21, Appendix A, pp. 160, 307, 431; 10, pp. 2, 3, 4, 5, 9
	Ethyl benzene	31 µg/kg	10 µg/kg	
	Total xylenes	64 µg/kg	10 µg/kg	
	Naphthalene	360,000 µg/kg	330 µg/kg	
	2-Methylnaphthalene	330,000 µg/kg	330 µg/kg	
	Acenaphthene	440,000 µg/kg	330 µg/kg	
	Dibenzofuran	380,000 µg/kg	330 µg/kg	
	Fluorene	410,000 µg/kg	330 µg/kg	
	Phenanthrene	960,000 µg/kg	330 µg/kg	
	Anthracene	290,000 µg/kg	330 µg/kg	
	Carbazole	170,000 µg/kg	330 µg/kg	
	Fluoranthene	620,000 µg/kg	330 µg/kg	
	Pyrene	400,000 µg/kg	330 µg/kg	
	Benzo(a)anthracene	150,000 µg/kg	330 µg/kg	
	Chrysene	150,000 µg/kg	330 µg/kg	
	Benzo(b)fluoranthene	77,000 µg/kg	330 µg/kg	
	Benzo(k)fluoranthene	68,000 µg/kg	330 µg/kg	
PW-11-SD	Fluorene	3,400 µg/kg	330 µg/kg	8, Table 21, Appendix A, p. 168; 10, pp. 4, 5
	Phenanthrene	11,000 µg/kg	330 µg/kg	
	Anthracene	7,400 µg/kg	330 µg/kg	
	Chrysene	6,100 µg/kg	330 µg/kg	
	Benzo(b)fluoranthene	5,800 µg/kg	330 µg/kg	

Notes:
PW - Picayune Wood Treating
SD - Sediment sample
mg/kg - Milligrams per kilogram
µg/kg - Micrograms per kilogram
CRDL/
CRQL - Contract-required detection limits (CRDLs) are provided for inorganic constituents, and contract-required quantitation limits (CRQLs) are provided for the organic compounds (Ref. 10).

The sediment samples listed in the previous table were collected from Mill Creek during the 2000 PA/SI conducted by EPA (Ref. 8).

Analytical data sheets are provided in Reference 8, Appendix A; all samples were analyzed by an EPA CLP laboratory (Ref. 8, Appendix A). Data validation was conducted by the EPA Region 4 SESD, and QA/QC information is provided in Reference 8, Appendix A.

- Background Sample (November 2002 Sampling)

EPA collected additional sediment samples from Mill Creek at the Picayune Wood Treating during the week of November 18, 2002 (Refs. 37; 38). Information on these samples is summarized in the table below. All samples were collected in accordance with procedures documented in the EPA SESD Region 4 EISOPQAM (November 2001) (Refs. 38, p. 2; 40, p. 2; 41).

Analytical data sheets are provided in Reference 42; all samples were analyzed by an EPA CLP laboratory (Ref. 42). Data validation was conducted by EPA Region 4 SESD; and QA/QC information is provided in Reference 42. For inorganic hazardous substances, CRDL are provided, and for organic substances, CRQL are provided. The CRDLs and CRQLs are listed in Reference 10. For dioxin and furan analyses, CRQL are provided as listed in Reference 48.

Background sediment sample PW-01-SD was used for comparison to downstream sediment samples PW-02-SD, PW-03-SD, PW-04-SD, PW-05-SD, PW-06-SD, PW-07-SD, PW-08-SD, PW-09-SD, and PW-10-SD. An unnamed perennial stream enters Mill Creek below the location of sediment sample PW-10-SD, therefore, background sediment sample PW-11-SD was used for comparison to downstream sediment samples PW-12-SD, PW-13-SD, and PW-14-SD.

Sample ID	Sampling Location	Depth[A] (Inches)	Date	Reference(s)
PW-01-SD	Mill Creek, upstream of Picayune Wood Treating, and south of the City of Picayune Well No.1.	0 - 3	11/21/02	38, p. 14
PW-11-SD	Unknown tributary of Mill Creek, at the southern end of Central Ave	0 - 3	11/19/02	38, pp. 5, 6

- Background Concentrations (November 2002 Samples)

Sample ID	Hazardous Substance	Concentration	CRDL/ CRQL	References
PW-01-SD	Toluene	8J* µg/kg	10 µg/kg	10, pp. 2, 3, 4, 5; 17, p. 1; 21, pp. 4, 8, 9; 42, pp. 6, 57, 104, 137, 142, 235, 240, 252; 48, Exhibit C, p. 3-4
	Naphthalene	45J* µg/kg	330 µg/kg	
	2-Methylnaphthalene	330U µg/kg	330 µg/kg	
	Acenaphthene	330U µg/kg	330 µg/kg	
	Dibenzofuran	330U µg/kg	330 µg/kg	
	Fluorene	330U µg/kg	330 µg/kg	
	Pentachlorophenol	830U µg/kg	800 µg/kg	
	Phenanthrene	210J* µg/kg	330 µg/kg	
	Anthracene	50J* µg/kg	330 µg/kg	
	Carbazole	35J* µg/kg	330 µg/kg	
	Fluoranthene	400 µg/kg	330 µg/kg	
	Pyrene	380 µg/kg	330 µg/kg	
	Benzo(a)anthracene	150J* µg/kg	330 µg/kg	
	Chrysene	280J* µg/kg	330 µg/kg	
	Benzo(b)fluoranthene	260J* µg/kg	330 µg/kg	
	Benzo(k)fluoranthene	270J* µg/kg	330 µg/kg	
	1,2,3,4,7,8-HxCDD	4.5J* ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDD	18 ng/kg	5.0 ng/kg	
	1,2,3,7,8,9-HxCDD	14 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDD	580J*** ng/kg	5.0 ng/kg	
	2,3,4,7,8-PeCDF	1.7J* ng/kg	5.0 ng/kg	
	1,2,3,4,7,8-HxCDF	7.3J* ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDF	20U ng/kg	5.0 ng/kg	
	1,2,3,7,8,9-HxCDF	0.31U ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDF	150 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF	8.1J* ng/kg	5.0 ng/kg	
	OCDF	310 ng/kg	10 ng/kg	

Sample ID	Hazardous Substance	Concentration	CRDL/ CRQL	References
PW-11-SD	2-Methylnaphthalene	330U µg/kg	330 µg/kg	10, pp. 3, 4, 5; 42, pp. 87, 235, 262; 48, Exhibit C, p. 3-4
	Acenaphthene	330U µg/kg	330 µg/kg	
	Dibenzofuran	330U µg/kg	330 µg/kg	
	Fluorene	330U µg/kg	330 µg/kg	
	Phenanthrene	330U µg/kg	330 µg/kg	
	Anthracene	330U µg/kg	330 µg/kg	
	Fluoranthene	330U µg/kg	330 µg/kg	
	Pyrene	330U µg/kg	330 µg/kg	
	Benzo(a)anthracene	330U µg/kg	330 µg/kg	
	Chrysene	330U µg/kg	330 µg/kg	
	Benzo(b)fluoranthene	330U µg/kg	330 µg/kg	
	Benzo(k)fluoranthene	330U µg/kg	330 µg/kg	
	Benzo(a)pyrene	330U µg/kg	330 µg/kg	
	Indeno(1,2,3-cd)pyrene	330U µg/kg	330 µg/kg	
	1,2,3,4,7,8-HxCDD	0.71J ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDD	2.2J ng/kg	5.0 ng/kg	
	1,2,3,7,8,9-HxCDD	5.6 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDD	88J ng/kg	5.0 ng/kg	
	2,3,7,8-TCDF	0.12U ng/kg	1.0 ng/kg	
	2,3,4,7,8-PeCDF	0.14U ng/kg	5.0 ng/kg	
	1,2,3,4,7,8-HxCDF	0.51J ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDF	1.4U ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDF	5.7U ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF	0.47U ng/kg	5.0 ng/kg	
	OCDF	15UJ ng/kg	10 ng/kg	

Notes:

PW - Picayune Wood Treating
SD - Sediment sample
mg/kg - Milligrams per kilogram
µg/kg - Micrograms per kilogram
ng/kg - Nanograms per kilogram
CRDL - Contract-required detection limits
CRQL - Contract-required quantitation limits

J* - Estimated concentration below the sample quantitation limit; therefore, concentration not adjusted according to Reference 21, pp. 4, 8
J** - Unknown sample concentration bias; therefore, the sample concentration was adjusted according to Reference 21, pp. 8, 9
J*** - Estimated sample concentration biased high; therefore, no sample concentration adjustment was made according to Reference 21, p. 8
PeCDD - Pentachlorodibenzodioxin
HxCDD - Hexachlorodibenzodioxin
HpCDD - Heptachlorodibenzodioxin
TCDF - Tetrachlorodibenzofuran
PeCDF - Pentachlorodibenzofuran
HxCDF - Hexachlorodibenzofuran
HpCDF - Heptachlorodibenzofuran
OCDF - Octachlorodibenzofuran

- Observed Release Concentrations (From November 2002)

Sample ID	Sampling Location	Depth (Inches)[A]	Date	Reference(s)
PW-02-SD	Collected from Mill Creek, east of the facility property and downstream of PPE No.1	0 - 3	11/21/02	38, p. 13
PW-03-SD	Collected from Mill Creek, southeast of the facility property and about 25 feet north (upstream) of the western bend adjacent to George Washington Carver Park, and upstream of the storm water culvert.	0 - 3	11/20/02	38, pp. 11, 12
PW-05-SD	Collected from Mill Creek, south of the facility property, about 25 feet east of the bend in the fence alligning the creek.	0 - 3	11/20/02	38, p. 10
PW-06-SD	Collected from Mill Creek, approximately 50 feet east (upstream) of Davis Street.	0 - 3	11/20/02	38, pp. 9, 10
PW-07-SD	Collected from Mill Creek, near the end of Weems Street.	ND	11/19/02	38, p. 8
PW-08-SD	Collected from Mill Creek, near the end (upstream) of Lewis Street.	0 - 4	11/19/02	38, pp. 7, 8
PW-09-SD	Collected from Mill Creek, near the end (upstream) of Sherd Street.	0 - 4	11/19/02	38, p. 7
PW-10-SD	Collected from Mill Creek, adjacent to the Beechwood Apartments.	ND	11/19/02	38, p. 6
PW-12-SD	Collected from Mill Creek, about 60 feet upstream of the Jackson Landing Road Bridge, and from within Palustrine forested wetlands.	ND	11/19/02	34; 38, p. 5
PW-13-SD	Collected from Mill Creek, downstream of the Jackson Landing Road Bridge, and from within Palustrine forested wetlands	0 - 3	11/19/02	34; 38, p. 4

Sample ID	Sampling Location	Depth (Inches)[A]	Date	Reference(s)
PW-14-SD	Collected from Mill Creek, behind a residence located at 2625 Jackson Landing Road, and from within Palustrine forested wetlands	0 - 3	11/19/02	34; 38, pp. 3, 4

Notes:
[A] - Collected below the surface water-sediment interface
PW - Picayune Wood Treating
SD - Sediment sample
ND - Not documented

Sample ID	Hazardous Substance	Concentration	CRDL/ CRQL	Reference(s)
PW-02-SD	Toluene	210 µg/kg	10 µg/kg	10, p. 2; 21, pp. 8, 9; 42, pp. 144, 235, 240, 253; 48, Exhibit C, p. 3-4
	1,2,3,4,7,8-HxCDD	750 ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDD	2,000 ng/kg	5.0 ng/kg	
	1,2,3,7,8,9-HxCDD	980 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDD	5,900* ng/kg	5.0 ng/kg	
	1,2,3,4,7,8-HxCDF	1,400 ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDF	550 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDF	22,000 ng/kg	5.0 ng/kg	
PW-03-SD	1,2,3,6,7,8-HxCDD	860 ng/kg	5.0 ng/kg	10, p. 4; 21, pp. 8, 9; 42, pp. 235, 238, 254; 48, Exhibit C, p. 3-4
	1,2,3,7,8,9-HxCDD	260 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8-HxCDF	270 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDF	5,600 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF	360 ng/kg	5.0 ng/kg	
	OCDF	16,000 ng/kg	10 ng/kg	
PW-05-SD	2-Methylnaphthalene	390* µg/kg	330 µg/kg	10, pp. 4, 5; 17, p. 1; 21, pp. 8, 9, 13, 14, 15; 42, pp. 3, 66, 235, 239, 255; 48, Exhibit C, p. 3-4
	Acenaphthene	2,564* µg/kg	330 µg/kg	
	Dibenzofuran	760* µg/kg	330 µg/kg	
	Fluorene	1,100* µg/kg	330 µg/kg	
	Phenanthrene	26,000 µg/kg	330 µg/kg	
	Fluoranthene	1,500* µg/kg	330 µg/kg	
	1,2,3,6,7,8-HxCDD	4,200 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDD	10,000* ng/kg	5.0 ng/kg	
	1,2,3,4,7,8-HxCDF	4,900 ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDF	1,400 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDF	55,000 ng/kg	5.0 ng/kg	
	OCDF	16,000* ng/kg	10 ng/kg	

Sample ID	Hazardous Substance	Concentration	CRDL/ CRQL	Reference(s)
PW-06-SD	Naphthalene	1,700* µg/kg	330 µg/kg	10, pp. 4, 5; 17, p. 1; 21, pp. 8, 9, 15; 42, pp. 3, 69, 235, 238, 256; 48, Exhibit C, p. 3-4
	2-Methylnaphthalene	150,000 µg/kg	330 µg/kg	
	Acenaphthene	310,000 µg/kg	330 µg/kg	
	Dibenzofuran	190,000 µg/kg	330 µg/kg	
	Fluorene	270,000 µg/kg	330 µg/kg	
	Phenanthrene	850,000 µg/kg	330 µg/kg	
	Anthracene	140,000 µg/kg	330 µg/kg	
	Carbazole	22,000 µg/kg	330 µg/kg	
	Fluoranthene	420,000 µg/kg	330 µg/kg	
	Pyrene	300,000 µg/kg	330 µg/kg	
	Benzo(a)anthracene	63,000 µg/kg	330 µg/kg	
	Chrysene	69,000 µg/kg	330 µg/kg	
	Benzo(b)fluoranthene	28,000 µg/kg	330 µg/kg	
	Benzo(k)fluoranthene	26,000 µg/kg	330 µg/kg	
	1,2,3,6,7,8-HxCDD	3,700 ng/kg	5.0 ng/kg	
	1,2,3,7,8,9-HxCDD	1,100 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDD	8,900* ng/kg	5.0 ng/kg	
	1,2,3,4,7,8-HxCDF	2,600 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDF	33,000 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF	3,200 ng/kg	5.0 ng/kg	
	OCDF	100,000 ng/kg	10 ng/kg	
PW-06D-SD	2-Methylnaphthalene	43,000 µg/kg	330 µg/kg	10, pp. 4, 5; 21, pp. 8, 9; 42, pp. 72, 235, 238, 257; 48, Exhibit C, p. 3-4
	Acenaphthene	190,000 µg/kg	330 µg/kg	
	Dibenzofuran	110,000 µg/kg	330 µg/kg	
	Fluorene	200,000 µg/kg	330 µg/kg	
	Phenanthrene	620,000 µg/kg	330 µg/kg	
	Anthracene	300,000 µg/kg	330 µg/kg	
	Carbazole	48,000 µg/kg	330 µg/kg	

Sample ID	Hazardous Substance	Concentration	CRDL/ CRQL	Reference(s)
PW-06D-SD (Cont.)	Fluoranthene	250,000 µg/kg	330 µg/kg	10, pp. 4, 5; 21, pp. 8, 9; 42, pp. 72, 235, 238, 257; 48, Exhibit C, p. 3-4
	Pyrene	200,000 µg/kg	330 µg/kg	
	Benzo(a)anthracene	41,000 µg/kg	330 µg/kg	
	Chrysene	47,000 µg/kg	330 µg/kg	
	Benzo(b)fluoranthene	210,000 µg/kg	330 µg/kg	
	1,2,3,6,7,8-HxCDD	2,400 ng/kg	5.0 ng/kg	
	1,2,3,7,8,9-HxCDD	540 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDD	5,600* ng/kg	5.0 ng/kg	
	1,2,3,4,7,8-HxCDF	2,100 ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDF	1,200 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDF	20,000 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF	1,800 ng/kg	5.0 ng/kg	
	OCDF	56,000 ng/kg	10 ng/kg	
PW-07-SD	2-Methylnaphthalene	1,000 µg/kg	330 µg/kg	10, pp. 4, 5; 21, pp. 8, 9; 42, pp. 75, 235, 258; 48, Exhibit C, p. 3-4
	Acenaphthene	6,000 µg/kg	330 µg/kg	
	Fluorene	5,400 µg/kg	330 µg/kg	
	Pentachlorophenol	1,000 µg/kg	800 µg/kg	
	Phenanthrene	17,000 µg/kg	330 µg/kg	
	Anthracene	5,600 µg/kg	330 µg/kg	
	Fluoranthene	20,000 µg/kg	330 µg/kg	
	Pyrene	17,000 µg/kg	330 µg/kg	
	1,2,3,4,7,8-HxCDD	120J ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDD	1,800 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDD	4,300* ng/kg	5.0 ng/kg	
	1,2,3,4,7,8-HxCDF	1,600 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDF	17,000 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF	1,500 ng/kg	5.0 ng/kg	
	OCDF	50,000 ng/kg	10 ng/kg	

Sample ID	Hazardous Substance	Concentration	CRDL/ CRQL	Reference(s)
PW-08-SD	Acenaphthene	650 µg/kg	330 µg/kg	10, p. 4; 42, pp. 78, 235, 259; 21, pp. 8, 9; 48, Exhibit C, p. 3-4
	Fluorene	1,200 µg/kg	330 µg/kg	
	Pentachlorophenol	1,500 µg/kg	800 µg/kg	
	Anthracene	6,400 µg/kg	330 µg/kg	
	Carbazole	1,200 µg/kg	330 µg/kg	
	Fluoranthene	7,300 µg/kg	330 µg/kg	
	Pyrene	7,100 µg/kg	330 µg/kg	
	1,2,3,6,7,8-HxCDD	2,100 ng/kg	5.0 ng/kg	
	1,2,3,7,8,9-HxCDD	680 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDD	4,300* ng/kg	5.0 ng/kg	
	1,2,3,4,7,8-HxCDF	1,900 ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDF	2,700 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDF	19,000 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF	1,800 ng/kg	5.0 ng/kg	
	OCDF	44,000 ng/kg	10 ng/kg	
PW-09-SD	1,2,3,6,7,8-HxCDD	160 ng/kg	5.0 ng/kg	21, pp. 8, 9; 42, pp. 235, 260; 48, Exhibit C, p. 3-4
	1,2,3,7,8,9-HxCDD	50 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8-HxCDF	78 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDF	1,400 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF	100 ng/kg	5.0 ng/kg	
PW-10-SD	1,2,3,6,7,8-HxCDD	170 ng/kg	5.0 ng/kg	21, pp. 8, 9; 42, pp. 235, 261; 48, Exhibit C, p. 3-4
	1,2,3,7,8,9-HxCDD	110 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8-HxCDF	73 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDF	1,800 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF	110 ng/kg	5.0 ng/kg	

Sample ID	Hazardous Substance	Concentration	CRDL/ CRQL	Reference(s)
PW-12-SD	Acenaphthene	27,000 µg/kg	330 µg/kg	10, pp. 8, 9; 42, pp. 90, 235, 239, 263; 48, Exhibit C, p. 3-4
	Dibenzofuran	20,000 µg/kg	330 µg/kg	
	Fluorene	27,000 µg/kg	330 µg/kg	
	Phenanthrene	83,000 µg/kg	330 µg/kg	
	Anthracene	18,000 µg/kg	330 µg/kg	
	Fluoranthene	48,000 µg/kg	330 µg/kg	
	Pyrene	36,000 µg/kg	330 µg/kg	
	1,2,3,6,7,8-HxCDD	4,900 ng/kg	5.0 ng/kg	
	1,2,3,7,8,9-HxCDD	1,200 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDD	9,100* ng/kg	5.0 ng/kg	
	2,3,7,8-TCDF	85 ng/kg	1.0 ng/kg	
	1,2,3,4,7,8-HxCDF	1,600 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDF	39,000 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF	3,400 ng/kg	5.0 ng/kg	
	OCDF	110,000 ng/kg	10 ng/kg	
PW-13-SD	1,2,3,6,7,8-HxCDD	140 ng/kg	5.0 ng/kg	10, pp. 8, 9; 42, pp. 235, 264; 48, Exhibit C, p. 3-4
	1,2,3,4,7,8-HxCDF	58 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDF	1,100 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF	110 ng/kg	5.0 ng/kg	
PW-14-SD	2-Methylnaphthalene	480 µg/kg	330 µg/kg	10, pp. 8, 9;42, pp. 96, 236, 265; 48, Exhibit C, p. 3-4
	Acenaphthene	3,000 µg/kg	330 µg/kg	
	Dibenzofuran	1,900 µg/kg	330 µg/kg	
	Fluorene	4,200 µg/kg	330 µg/kg	
	Phenanthrene	17,000 µg/kg	330 µg/kg	
	Anthracene	4,200 µg/kg	330 µg/kg	
	Fluoranthene	14,000 µg/kg	330 µg/kg	
	Pyrene	10,000 µg/kg	330 µg/kg	
	Benzo(a)anthracene	2,200 µg/kg	330 µg/kg	
	Chrysene	2,200 µg/kg	330 µg/kg	

Sample ID	Hazardous Substance	Concentration	CRDL/ CRQL	Reference(s)
PW-14-SD (Cont.)	Benzo(b)fluoranthene	1,300 µg/kg	330 µg/kg	10, pp. 8, 9;42, pp. 96, 236, 265; 48, Exhibit C, p. 3-4
	Benzo(k)fluoranthene	830 µg/kg	330 µg/kg	
	Benzo(a)pyrene	770 µg/kg	330 µg/kg	
	Indeno(1,2,3-cd)pyrene	370 µg/kg	330 µg/kg	
	1,2,3,6,7,8-HxCDD	1,200 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDD	2,700* ng/kg	5.0 ng/kg	
	2,3,4,7,8-PeCDF	110 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8-HxCDF	1,000 ng/kg	5.0 ng/kg	
	1,2,3,6,7,8-HxCDF	1,300 ng/kg	5.0 ng/kg	
	1,2,3,4,6,7,8-HpCDF	12,000 ng/kg	5.0 ng/kg	
	1,2,3,4,7,8,9-HpCDF	950 ng/kg	5.0 ng/kg	
	OCDF	30,000 ng/kg	10 ng/kg	

Notes:

PW - Picayune Wood Treating
SD - Sediment sample
mg/kg - Milligrams per kilogram
µg/kg - Micrograms per kilogram
ng/kg - Nanograms per kilogram
CRDL - Contract-required detection limits
CRQL - Contract-required quantitation limits
* - Values adjusted in accordance with Reference 21
TCDD - Tetrachlorodibenzodioxin
PeCDD - Pentachlorodibenzodioxin
HxCDD - Hexachlorodibenzodioxin
HpCDD - Heptachlorodibenzodioxin
OCDD - Octachlorodibenzodioxin
TCDF - Tetrachlorodibenzofuran
PeCDF - Pentachlorodibenzofuran
HxCDF - Hexachlorodibenzofuran
HpCDF - Heptachlorodibenzofuran
OCDF - Octachlorodibenzofuran

Attribution:

The facility may have been constructed prior to 1917, and was reportedly known as R.J. Williams Rosa Lumber Company (Ref. 43, p. 1). In 1917, Mr. Lucius Crosby, along with the International Harvester Company, bought this property (Ref. 43, p. 1). Information indicates that after this property transaction, the facility became known as the Goodyear Yellow Pine Company (Ref. 43, p. 1). Operations at the facility were expanded during 1918 (Ref. 43, p. 1). The facility at this time was owned by Mr. Crosby, Lamont Rowlands, and C.A. Goodyear (Ref. 43, p. 1). Mr. Crosby bought control from the Goodyear family in 1920, and from Mr. Rowland in 1929 (Ref. 43, p. 1).

It is unclear when the facility name changed to Crosby Forest Products (Crosby); however, the name change appears to have occurred at some time between 1946 and 1950 (Ref. 5, p. 2; 16, Volume 1, p. 2; 43, p. 1). Very little is known about Crosby; however, historical information indicates that in 1951 the company owned the entire existing property in addition to the property east of Davis Street, where the abandoned "Interpine" facility is now located (Refs. 38, p. 2; 44, pp. 3, 4). Additionally, during 1951, residences were located on the northern side of Rosa Street and south of the facility and Mill Creek, in the vicinity of what is now George Washington Carver Park (Refs. 38, p. 11; 44, pp. 3, 4). On the facility property, Crosby operated a creosote plant, saw mill, veneer mill, tung oil mill, and box factory (Ref. 44, p. 3). The veneer mill was added in 1947 (Ref. 43, p. 1). The wirebound box plant was added in 1946 and was sold during the 1960s (Ref. 43, p. 1).

In 1973, the facility was purchased by Wood Treating, Inc., along with approximately 30 acres of property (Ref. 5, p. 2; 14, Section 1, p. 1; 16, Volume 1, p. 2). Since 1973, the facility has been involved in the treatment of yellow pine wooden poles for use in the utility and construction industries (Ref. 5, p. 2; 16, Volume 1, p. 2). The facility has always used creosote in this process; however, from about 1974 until 1982, pentachlorophenol was also used at the facility (Ref. 5, p. 2; 16, Volume 1, p. 2).

Coal tar creosote is a distallate of coal tar produced by high temperature carbonization of bituminous coal (Ref. 23, p. 63). Coal tar creosote is the most widely used wood preservative in the United States. Coal tar creosote contains as many as 300 chemicals (Ref. 23, p. 1). It is usually an oily liquid that is amber to brown in color (Ref. 23, p. 2). Creosote is typically composed of approximately 85 percent PAH and 2 percent to 17 percent phenolics (Ref. 23, p. 63). Type P2 creosote is used by the railroad industry to treat railroad ties (Ref. 23, p. 63). Following are the major chemical components of P2 creosote: indene, methylbenzofurans and xylenol, naphthalene, quinoline, 2-methylnaphthalene and indole, 1-methylnaphthalene, biphenyl, acenaphthene, dibenzofuran, fluorene, methylfluorenes, phenanthrene, anthracene, carbazole, 2- and 3-methylphenanthrenes, fluoranthene, pyrene, chrysene, and methylchrysene and benzanthracenes (Ref. 23, p. 67).

The wood preserving process employed by the facility involved preparing raw materials, conditioning the wood, and impregnating the wood with preservative (Ref. 16, Vol. 1, pp. 2, 3). Raw lumber was debarked prior to the conditioning cycle (Ref. 19, p. 3). The conditioning cycle involved steam and vacuum conditioning, where wood was placed inside the pressure impregnation retort and heated to 245 °F, then saturated with steam for a period of 10 to 16 hours (Ref. 19, p. 6). The condensate was constantly bled from the retort (Refs. 16, Volume 1, p. 3; 19, p. 6). After the steaming process, the retort was vented to the outside atmosphere, and a vacuum pressure of 23 inches of mercury was applied as rapidly as possible for 2 to 3 hours (Refs. 16, Vol. 1, p. 3; 19, p. 6). Cooling water from the steaming process was then stored in the unlined cooling water

pond, which was constructed in 1946 (Refs. 16, Volume 1, p. 3; 19, p. 6). After 1985, the process was modified and contact cooling water was no longer generated; instead, only a small amount of non-contact cooling water was necessary (Refs. 16, Vol. 1, p. 3; 19, p. 6). Condensable liquids were then collected and pumped to the wastewater treatment system (Refs. 16, Volume 1, p. 3; 19, p. 6).

When the conditioning cycle was completed, the retort was then filled with preservative (Refs. 16, Vol. 1, p. 3; 19, p. 6). Wood preservatives used at the facility were creosote, and for a brief period, pentachlorophenol (Refs. 5, p. 2; 16, Vol. 1, p. 2). The wood was then impregnated with the preservative by raising the pressures to 150 to 200 pounds per square inch gaged (Refs. 16, Volume 1, p. 3; 19, p. 6). After the pressure treatment cycle, the finished wood was removed from the retort and stored to allow the internal pressure to equalize (Ref. 19, pp. 6, 7). During pressure equalization, internal pressures forced excess preservative out of the wood (Refs. 16, Volume 1, p. 4; 19, p. 7). Excess preservative and waters from the steaming cycle were placed in the former cooling water pond (Ref. 19, p. 7). Sludges that accumulated in the bottom of the impoundment were said to contain KOO1 waste (Refs. 5, p. 3; 14, Section 2, p. 2; 16, Volume 1, p. 4; 19, p. 7). K001 waste is made up of bottom sediment sludges formed from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol (Ref. 5, p. 3). K001 waste contains one or more of the following constituents: pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichlorophenol, tetrachlorophenol, creosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(a)anthracene, indeno(1,2,3-cd)pyrene, dibenzo(a)anthracene, or acenaphthalene (Ref. 5, p. 3). The cooling water pond, located in the northern portion of the facility, was used for facility operations from 1946 until 1985; however, prior to 1973, specific operations at the facility are unknown (Ref. 5, p. 3).

Another wood preserving company is located at 1900 Rosa Street in Picayune (Ref. 45). Kenson Wood Preserving L.L.C., (formerly Pearl River Wood Preserving) is approximately 0.75 mile west and downstream of Picayune and the PPEs (Refs. 3; 45; 59, p. 1). Kenson operates as an active facility and is listed as a large quantity generator operating under Handler ID No. MSD008194144 (Refs. 46; 47). Processes include wood preserving using creosote and/or pentachlorophenol, along with arsenic and chromium (Refs. 46, p. 2; 52, p. 267). The National Pollutant Discharge Elimination System (NPDES) permit (MSR220001) for this location (1900 Rosa Street) is listed under Pearl River Wood, LLC (Ref. 55, p. 1). The NPDES permit was issued on October 13, 1993, and expired on July 13, 1997 (Ref. 55, p. 2). The permitted discharge empties into the receiving waters of Mill Creek, however the exact location of the outfall is unknown (Ref. 55, p. 1).

Hazardous Substances Released:

Toluene
Naphthalene
2-Methylnaphthalene
Acenaphthene
Dibenzofuran
Fluorene
Phenanthrene
Anthracene
Carbazole
Fluoranthene
Pyrene
Pentachlorophenol

Benzo(a)anthracene
Chrysene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Indeno(1,2,3-cd)pyrene
1,2,3,4,7,8-Hexachlorodibenzodioxin
1,2,3,6,7,8-Hexachlorodibenzodioxin
1,2,3,7,8,9-Hexachlorodibenzodioxin
1,2,3,4,6,7,8-Heptachlorodibenzodioxin
2,3,7,8-Tetrachlorodibenzofuran (TCDF)
2,3,4,7,8-Pentachlorodibenzofuran
1,2,3,4,7,8-Hexachlorodibenzofuran
1,2,3,6,7,8-Hexachlorodibenzofuran
1,2,3,4,6,7,8-Heptachlorodibenzofuran
1,2,3,4,7,8,9-Heptachlorodibenzofuran
Octachlorodibenzofuran (OCDF)

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Observed Release Factor Value: 550

4.1.2.1.2 POTENTIAL TO RELEASE

4.1.2.1.2.1 <u>Potential to Release by Overland Flow</u>

Potential to release was not scored because an observed release was established by chemical analysis (see Section 4.1.2.1.1 of this documentation record).

4.1.2.2 WASTE CHARACTERISTICS

4.1.2.2.1 Toxicity/Persistence

Hazardous Substance	Source Number	Toxicity Factor Value	Persistence[A] Factor Value	Toxicity/ Persistence Factor Value[B]	References
Arsenic	1	10,000	1	10,000	1, Section 4.1.2.2.1; 2, p. BI-1
Copper	1, 2	[D]	1	[D]	1, Section 4.1.2.2.1; 2, p. BI-3
Lead	1, 2	10,000	1	10,000	1, Section 4.1.2.2.1; 2, p. BI-8
Mercury	1	10,000	1	10,000	1, Section 4.1.2.2.1; 2, p. BI-8
Nickel	1, 2	10,000	1	10,000	1, Section 4.1.2.2.1; 2, p. BI-9
Cyanide	1	100	1	100	1, Section 4.1.2.2.1; 2, p. BI-4
Benzene	1, 2	1,000	0.4	400	1, Section 4.1.2.2.1; 2, p. BI-2
Toluene	1, 2	10	0.07	0.7	1, Section 4.1.2.2.1; 2, p. BI-11
Ethyl benzene	1, 2	10	0.0007	0.007	1, Section 4.1.2.2.1; 2, p. BI-6
Total xylenes	1	100	0.4	40	1, Section 4.1.2.2.1; 2, p. BI-12
Styrene	1, 2	10	0.4	4	1, Section 4.1.2.2.1; 2, p. BI-10
Isopropylbenzene (Cumene)	2	10	0.4	4	1, Section 4.1.2.2.1; 2, p. BI-3
Naphthalene	1, 2	1,000	0.4	400	1, Section 4.1.2.2.1; 2, p. BI-9

Hazardous Substance	Source Number	Toxicity Factor Value	Persistence[A] Factor Value	Toxicity/ Persistence Factor Value[B]	References
2-Methylnaphthalene	1, 2	[D]	0.4	[D]	1, Section 4.1.2.2.1; 2, p. BI-9
1,1-Biphenyl	1, 2	[D]	[D]	[D]	1, Section 4.1.2.2.1;
Acenapthylene	1	[D]	0.4	[D]	1, Section 4.1.2.2.1; 2, p. BI-1
Acenaphthene	1, 2	10	0.4	4	1, Section 4.1.2.2.1; 2, p. BI-1
Dibenzofuran	1, 2	1,000	1	1,000	1, Section 4.1.2.2.1; 2, p. BI-4
Fluorene	1, 2	100	1	100	1, Section 4.1.2.2.1; 2, p. BI-6
Pentachlorophenol	1, 2	100	1	100	1, Section 4.1.2.2.1; 2, p. BI-9
Phenanthrene	1, 2	[D]	0.4	[D]	1, Section 4.1.2.2.1; 2, p. BI-10
Anthracene	1, 2	10	0.4	4	1, Section 4.1.2.2.1; 2, p. BI-1
Carbazole	1, 2	10	0.4	4	1, Section 4.1.2.2.1; 2, p. BI-2
Fluoranthene	1, 2	100	1	100	1, Section 4.1.2.2.1; 2, p. BI-2
Pyrene	1, 2	100	1	100	1, Section 4.1.2.2.1; 2, p. BI-10
Benzo(a)anthracene	1, 2	1,000	1	1,000	1, Section 4.1.2.2.1; 2, p. BI-2
Chrysene	1, 2	10	1	10	1, Section 4.1.2.2.1; 2, p. BI-3

Hazardous Substance	Source Number	Toxicity Factor Value	Persistence[A] Factor Value	Toxicity/ Persistence Factor Value[B]	References
Bis(2-ethylhexyl)phthalate	2	100	1	100	1, Section 4.1.2.2.1; 2, p. BI-2
Di-n-octylphthalate	2	100	1	100	1, Section 4.1.2.2.1; 2, p. BI-4
Benzo(b)fluoranthene	1	[D]	[D]	[D]	1, Section 4.1.2.2.1
Benzo(k)fluoranthene	1	100	1	100	1, Section 4.1.2.2.1; 2, p. BI-2
Benzo(a)pyrene	1	10,000	1	10,000	1, Section 4.1.2.2.1; 2, p. BI-2
Indeno(1,2,3-cd)pyrene	1	1,000	1	1,000	1, Section 4.1.2.2.1; 2, p. BI-8
Benzo(ghi)perylene	1	[D]	1	[D]	1, Section 4.1.2.2.1; 2, p. BI-2
2,3,7,8-TCDD	1	10,000	1	10,000	1, Section 4.1.2.2.1; 2, p. BI-10
1,2,3,7,8-PeCDD	1	10,000	1	10,000	1, Section 4.1.2.2.1; 2, p. BI-9
1,2,3,4,7,8-HxCDD	1, 2	10,000	1	10,000	1, Section 4.1.2.2.1; 2, p. BI-7
1,2,3,6,7,8-HxCDD	1, 2	10,000	1	10,000	1, Section 4.1.2.2.1; 2, p. BI-7
1,2,3,7,8,9-HxCDD	1, 2	10,000	1	10,000	1, Section 4.1.2.2.1; 2, p. BI-7
1,2,3,4,6,7,8-HpCDD	1, 2	10,000	1	10,000	1, Section 4.1.2.2.1; 2, p. BI-7
OCDD	1, 2	[D]	[D]	[D]	1, Section 4.1.2.2.1

Hazardous Substance	Source Number	Toxicity Factor Value	Persistence[A] Factor Value	Toxicity/ Persistence Factor Value[B]	References
2,3,7,8-TCDF	1, 2	10,000	1	10,000	1, Section 4.1.2.2.1; 2, p. BI-11
2,3,4,7,8-PeCDF	1, 2	10,000	1	10,000	1, Section 4.1.2.2.1; 2, p. BI-9
1,2,3,4,7,8-HxCDF	1, 2	10,000	1	10,000	1, Section 4.1.2.2.1; 2, p. BI-7
1,2,3,6,7,8-HxCDF	1, 2	10,000	0.4	4,000	1, Section 4.1.2.2.1; 2, p. BI-8
1,2,3,7,8,9-HxCDF	1	10,000	0.4	4,000	1, Section 4.1.2.2.1; 2, p. BI-8
2,3,4,6,7,8-HxCDF	1	10,000	0.4	4,000	1, Section 4.1.2.2.1; 2, p. BI-8
1,2,3,4,6,7,8-HpCDF	1	10,000	1	10,000	1, Section 4.1.2.2.1; 2, p. BI-7
1,2,3,4,7,8,9-HpCDF	1, 2	10,000	0.4	4,000	1, Section 4.1.2.2.1; 2, p. BI-7
OCDF	1, 2	[D]	[D]	[D]	1, Section 4.1.2.2.1

Notes:
[A] - Persistence value for rivers
[B] - Toxicity/persistence factor values are listed in Ref. 1, Table 4-12
[D] - Value unknown
TCDD - Tetrachlorodibenzodioxin
PeCDD - Pentachlorodibenzodioxin
HxCDD - Hexachlorodibenzodioxin
HpCDD - Heptachlorodibenzodioxin
OCDD - Octachlorodibenzodioxin
TCDF - Tetrachlorodibenzofuran
PeCDF - Pentachlorodibenzofuran
HxCDF - Hexachlorodibenzofuran
HpCDF - Heptachlorodibenzofuran
OCDF - Octachlorodibenzofuran

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Toxicity/Persistence Factor Value: 10,000

4.1.2.2.2 Hazardous Waste Quantity

Source Number	Source Hazardous Waste Quantity Value (Section 2.4.2.1.5)	Is source hazardous constituent quantity data complete? (Yes/No)
1	>0	No
2	1,380.15	No
Sum of Values: 1,380.15		

Note: > - Greater than

4.1.2.2.3 Waste Characteristics Factor Category Value

Toxicity/persistence factor value (10,000)
X hazardous waste quantity factor value (100): 1 x 10^6

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Hazardous Waste Quantity Factor Value: 100
Waste Characteristics Factor Category Value: 32

4.1.2.3 DRINKING WATER TARGETS

No surface water intakes are along the 15-mile target distance limit on Mill Creek, the McCall River, or the Pearl River (Ref. 32).

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Nearest Intake Factor Value: 0

4.1.2.3.3 Resources

Children playing in George Washington Carver Park immediately south of the facility often used Mill Creek for recreation (Ref. 5, p. 8). However, now Mill Creek is fenced off from the park (Ref. 38, p. 3). Mill Creek, the McCall River, and the Pearl River are all designated fish and wildlife water bodies by the Mississippi Department of Environmental Quality, Land and Water Division (Ref. 32). Mill Creek (downstream of the facility), the McCall River, and the Pearl River are all used for boating, water sports, and commercial and recreational fishing (Ref. 32). No fishing is known to occur in Mill Creek adjacent to the facility (Ref. 32). However, fishing does occur on Mill Creek around the Jackson Landing Bridge (Ref. 38, p. 11).

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Resources Factor Value: 5

4.1.3.2 WASTE CHARACTERISTICS

4.1.3.2.1 Toxicity/Persistence/Bioaccumulation

Hazardous Substance	Source Number	Toxicity Factor Value	Persistence[A] Factor Value	Bioaccumulation (Table 4-15)	Toxicity/ Persistence/ Bioaccumulation Factor Value[B] (Table 4-16)	References
Arsenic	1	10,000	1	5	50,000	1, Section 4.1.3.2.1; 2, p. BI-1
Copper	1, 2	[D]	1	500	[D]	1, Section 4.1.3.2.1; 2, p. BI-3
Lead	1, 2	10,000	1	5	50,000	1, Section 4.1.3.2.1; 2, p. BI-8
Mercury	1	10,000	1	50,000	5×10^8	1, Section 4.1.3.2.1; 2, p. BI-8
Nickel	1, 2	10,000	1	0.5	5,000	1, Section 4.1.3.2.1; 2, p. BI-9
Cyanide	1	100	1	0.5	50	1, Section 4.1.3.2.1; 2, p. BI-4
Benzene	1, 2	1,000	0.4	5,000	2×10^6	1, Section 4.1.3.2.1; 2, p. BI-2
Toluene	1, 2	10	0.07	50	35	1, Section 4.1.3.2.1; 2, p. BI-11
Ethyl benzene	1, 2	10	0.0007	50	0.35	1, Section 4.1.3.2.1; 2, p. BI-6
Total xylenes	1	100	0.4	50	2,000	1, Section 4.1.3.2.1; 2, p. BI-12
Styrene	1, 2	10	0.4	50	200	1, Section 4.1.3.2.1; 2, p. BI-10
Isopropylbenzene (Cumene)	2	10	0.4	500	2,000	1, Section 4.1.3.2.1; 2, p. BI-3

Hazardous Substance	Source Number	Toxicity Factor Value	Persistence[A] Factor Value	Bioaccumulation (Table 4-15)	Toxicity/ Persistence/ Bioaccumulation Factor Value[B] (Table 4-16)	References
Naphthalene	1, 2	1,000	0.4	50,000	2×10^7	1, Section 4.1.3.2.1; 2, p. BI-9
2-Methylnaphthalene	1, 2	[D]	0.4	50,000	[D]	1, Section 4.1.3.2.1; 2, p. BI-9
1,1-Biphenyl	1, 2	[D]	[D]	[D]	[D]	1, Section 4.1.3.2.1
Acenapthylene	1	[D]	0.4	500	[D]	1, Section 4.1.3.2.1; 2, p. BI-1
Acenaphthene	1, 2	10	0.4	500	2,000	1, Section 4.1.3.2.1; 2, p. BI-1
Dibenzofuran	1, 2	1,000	1	500	500,000	1, Section 4.1.3.2.1; 2, p. BI-4
Fluorene	1, 2	100	1	500	50,000	1, Section 4.1.3.2.1; 2, p. BI-6
Pentachlorophenol	1, 2	100	1	50,000	5×10^6	1, Section 4.1.3.2.1; 2, p. BI-9
Phenanthrene	1, 2	[D]	0.4	5,000	[D]	1, Section 4.1.3.2.1; 2, p. BI-10
Anthracene	1, 2	10	0.4	50,000	200,000	1, Section 4.1.3.2.1; 2, p. BI-1
Carbazole	1, 2	10	0.4	500	2,000	1, Section 4.1.3.2.1; 2, p. BI-2
Fluoranthene	1, 2	100	1	500	50,000	1, Section 4.1.3.2.1; 2, p. BI-2
Pyrene	1, 2	100	1	50,000	5×10^6	1, Section 4.1.3.2.1; 2, p. BI-10

Hazardous Substance	Source Number	Toxicity Factor Value	Persistence[A] Factor Value	Bioaccumulation (Table 4-15)	Toxicity/ Persistence/ Bioaccumulation Factor Value[B] (Table 4-16)	References
Benzo(a)anthracene	1, 2	1,000	1	50,000	5.0×10^7	1, Section 4.1.3.2.1; 2, p. BI-2
Chrysene	1, 2	10	1	5	50	1, Section 4.1.3.2.1; 2, p. BI-3
Bis(2-ethylhexyl)phthalate	2	100	1	50,000	5.0×10^6	1, Section 4.1.3.2.1; 2, p. BI-2
Di-n-octylphthalate	2	100	1	500	50,000	1, Section 4.1.3.2.1; 2, p. BI-4
Benzo(b)fluoranthene	1	[D]	[D]	[D]	[D]	1, Section 4.1.3.2.1
Benzo(k)fluoranthene	1	100	1	50,000	5.0×10^6	1, Section 4.1.3.2.1; 2, p. BI-2
Benzo(a)pyrene	1	10,000	1	50,000	5.0×10^8	1, Section 4.1.3.2.1; 2, p. BI-2
Indeno(1,2,3-cd)pyrene	1	1,000	1	50,000	5.0×10^7	1, Section 4.1.3.2.1; 2, p. BI-8
Benzo(ghi)perylene	1	[D]	1	50,000	[D]	1, Section 4.1.3.2.1; 2, p. BI-2
2,3,7,8-TCDD	1	10,000	1	5,000	5×10^7	1, Section 4.1.3.2.1; 2, p. BI-10
1,2,3,7,8-PeCDD	1	10,000	1	50,000	5×10^8	1, Section 4.1.3.2.1; 2, p. BI-9
1,2,3,4,7,8-HxCDD	1, 2	10,000	1	50,000	5×10^8	1, Section 4.1.3.2.1; 2, p. BI-7
1,2,3,6,7,8-HxCDD	1, 2	10,000	1	5,000	5×10^7	1, Section 4.1.3.2.1; 2, p. BI-7

Hazardous Substance	Source Number	Toxicity Factor Value	Persistence[A] Factor Value	Bioaccumu-lation (Table 4-15)	Toxicity/ Persistence/ Bioaccumula-tion Factor Value[B] (Table 4-16)	References
1,2,3,7,8,9-HxCDD	1, 2	10,000	1	50,000	5×10^8	1, Section 4.1.3.2.1; 2, p. BI-7
1,2,3,4,6,7,8-HpCDD	1, 2	10,000	1	50,000	5×10^8	1, Section 4.1.3.2.1; 2, p. BI-7
OCDD	1, 2	[D]	[D]	[D]	[D]	1, Section 4.1.3.2.1
2,3,7,8-TCDF	1, 2	10,000	1	50,000	5×10^8	1, Section 4.1.3.2.1; 2, p. BI-11
2,3,4,7,8-PeCDF	1, 2	10,000	1	0.5	5,000	1, Section 4.1.3.2.1; 2, p. BI-9
1,2,3,4,7,8-HxCDF	1, 2	10,000	1	50,000	5×10^8	1, Section 4.1.3.2.1; 2, p. BI-7
1,2,3,6,7,8-HxCDF	1, 2	10,000	0.4	0.5	2,000	1, Section 4.1.3.2.1; 2, p. BI-8
1,2,3,7,8,9-HxCDF	1	10,000	0.4	0.5	2,000	1, Section 4.1.3.2.1; 2, p. BI-8
2,3,4,6,7,8-HxCDF	1	10,000	0.4	0.5	2,000	1, Section 4.1.3.2.1; 2, p. BI-8
1,2,3,4,6,7,8-HpCDF	1	10,000	1	50,000	5×10^8	1, Section 4.1.3.2.1; 2, p. BI-7
1,2,3,4,7,8,9-HpCDF	1, 2	10,000	0.4	0.5	2,000	1, Section 4.1.3.2.1; 2, p. BI-7
OCDF	1, 2	[D]	[D]	[D]	[D]	1, Section 4.1.3.2.1

Notes:
[A] - Persistence value for rivers
[B] - Toxicity/Persistence/Bioaccumulation factor values are listed in Reference 1, Table 4-16
[D] - Value unknown

TCDD - Tetrachlorodibenzodioxin
PeCDD - Pentachlorodibenzodioxin
HxCDD - Hexachlorodibenzodioxin
HpCDD - Heptachlorodibenzodioxin
OCDD - Octachlorodibenzodioxin
TCDF - Tetrachlorodibenzofuran
PeCDF - Pentachlorodibenzofuran
HxCDF - Hexachlorodibenzofuran
HpCDF - Heptachlorodibenzofuran
OCDF - Octachlorodibenzofuran

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Toxicity/Persistence/Bioaccumulation Factor Value: 5×10^{8}

4.1.3.2.2 Hazardous Waste Quantity

Source Number	Source Hazardous Waste Quantity Value (Section 2.4.2.1.5)	Is source hazardous constituent quantity data complete? (Yes/No)
1	>0	No
2	1,380.15	No
Sum of Values: 1,380.15		

Note: > - Greater than

4.1.3.2.3 Waste Characteristics Factor Category Value

Toxicity/persistence factor value (10,000)
X hazardous waste quantity factor value (100): 1×10^{6}

(Toxicity/persistence [10,000] x hazardous waste quantity [100]
X Bioaccumulation potential factor value [50,000]): 5×10^{10}

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Hazardous Waste Quantity Assigned Value: 100
Waste Characteristics Factor Category Value: 320

4.1.3.3 HUMAN FOOD CHAIN THREAT-TARGETS

Actual Human Food Chain Contamination

Sediment Samples

Sample Identification Number	Distance from Probable Point of Entry	Hazardous Substance	Bioaccumulation Potential Factor Value	References
November 2002 Sampling Event				
PW-02-SD	~5 feet downstream of PPE No.1 on Mill Creek	1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD 1,2,3,4,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF	50,000 5,000 50,000 50,000 50,000 50,000	3; 38, p. 13; see Figure 5 of this documentation record
PW-03-SD	~500 feet downstream of PPE No.1 on Mill Creek	1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF	5,000 50,000 50,000 50,000	3; 38, p. 11; see Figure 5 of this documentation record
PW-05-SD	~15 feet upstream of PPE No.2 on Mill Creek	Phenanthrene 2-Methylnaphthalene Acenaphthene Dibenzofuran Fluorene Fluoranthene 1,2,3,6,7,8-HxCDD 1,2,3,4,6,7,8-HpCDD 1,2,3,4,7,8-HxCDF	5,000 50,000 500 500 500 500 5,000 50,000 50,000	3; 38, p. 10; see Figure 5 of this documentation record
PW-06-SD	~25 feet downstream of PPE No.2, and 50 feet upstream of Davis Street	Phenanthrene Pyrene Naphthalene 2-Methylnaphthalene Acenaphthene Dibenzofuran Fluorene Anthracene Carbazole Fluoranthene Benzo(a)anthracene Benzo(k)fluoranthene 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD 1,2,3,4,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF	5,000 50,000 50,000 50,000 500 500 500 50,000 500 500 50,000 50,000 5,000 50,000 50,000 50,000 50,000	3; 38, p. 9; see Figure 5 of this documentation record

Sample Identification Number	Distance from Probable Point of Entry	Hazardous Substance	Bioaccumulation Potential Factor Value	References
PW-06D-SD	~25 feet downstream of PPE No.2, and 50 feet upstream of Davis Street	Phenanthrene Pyrene 2-Methylnaphthalene Acenaphthene Dibenzofuran Fluorene Anthracene Carbazole Fluoranthene Benzo(a)anthracene 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD 1,2,3,4,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF	5,000 50,000 50,000 500 500 500 50,000 500 500 50,000 5,000 50,000 50,000 50,000 50,000	3; 38, p. 9; see Figure 5 of this documentation record
PW-07-SD	~0.2 mile downstream of PPE No.1; collected from Mill Creek, near the end of Weems Street	Phenanthrene Pyrene 2-Methylnaphthalene Acenaphthene Fluorene Pentachlorophenol Anthracene Fluoranthene 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,4,6,7,8-HpCDD 1,2,3,4,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF	5,000 50,000 50,000 500 500 50,000 50,000 500 50,000 5,000 50,000 50,000 50,000	3; 38, p. 8; see Figure 5 of this documentation record
PW-08-SD	~0.35 mile downstream of PPE No.1; collected from Mill Creek, near the end (upstream) of Lewis Street	Pyrene Acenaphthene Fluorene Pentachlorophenol Anthracene Carbazole Fluoranthene 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD 1,2,3,4,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF	50,000 500 500 50,000 50,000 500 500 5,000 50,000 50,000 50,000 50,000	3; 38, pp. 7, 8; see Figure 5 of this documentation record

Sample Identification Number	Distance from Probable Point of Entry	Hazardous Substance	Bioaccumulation Potential Factor Value	References
PW-09-SD	~0.6 mile downstream of PPE No.1; collected from Mill Creek, near the end (upstream) of Sherd Street	1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF	5,000 50,000 50,000 50,000	3; 38, p. 7; see Figure 5 of this documentation record
PW-10-SD	~0.8 mile downstream of PPE No.1;collected from Mill Creek, adjacent to the Beechwood Apartments	1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF	5,000 50,000 50,000 50,000	3; 38, p. 6; see Figure 5 of this documentation record
PW-12-SD	~1.4 miles downstream of PPE No.1; collected from Mill Creek, about 60 feet upstream of the Jackson Landing Road Bridge	Phenanthrene Pyrene Acenaphthene Dibenzofuran Fluorene Anthracene Fluoranthene 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD 2,3,7,8-TCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF	5,000 50,000 500 500 500 50,000 500 5,000 50,000 50,000 50,000 50,000 50,000	3; 38, p. 5; see Figure 5 of this documentation record
PW-13-SD	~1.5 miles downstream of PPE No.1; collected from Mill Creek, downstream of the Jackson Landing Road Bridge	1,2,3,6,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF	5,000 50,000 50,000	3; 38, p. 4; see Figure 5 of this documentation record

Sample Identification Number	Distance from Probable Point of Entry	Hazardous Substance	Bioaccumulation Potential Factor Value	References
PW-14-SD	~1.9 miles downstream of PPE No.1; collected from Mill Creek, behind a residence located at 2625 Jackson Landing Road	2-Methylnaphthalene Acenaphthene Dibenzofuran Fluorene Anthracene Fluoranthene Benzo(a)anthracene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene 1,2,3,4,6,7,8-HpCDD 1,2,3,4,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF	50,000 500 500 500 50,000 500 50,000 50,000 50,000 50,000 50,000 50,000 50,000	38, pp. 3, 4

Notes: PW - Picayune Wood Treating
PPE - Probable point of entry
SD - Sediment sample
~ - Approximately

Closed Fisheries

No known fisheries have been closed from contamination within the 15-mile surface water migration pathway target distance limit.

Benthic Tissue

No samples have been collected from sessile benthic organisms located within the 15-mile surface water migration pathway target distance limit.

Level I Concentrations

No Level I concentrations have been documented.

Level II Concentrations

Mill Creek was evaluated as a Level II fishery for this HRS documentation record.

Most Distant Level II Sample

PW-14-SD
Distance from PPE: Approximately 1.9 miles downstream of PPE No.1
References: 3; 38, pp. 3, 4; 42

Identity of fishery	Extent of the Level II Fishery (Relative to Probable Point of Entry)
Mill Creek	>0

4.1.3.3.1 Food Chain Individual

(November 2002 Sampling Event)

Sample ID: PW-12-SD
Hazardous Substances: Pyrene, Phenanthrene, Acenaphthene, Dibenzofuran, Fluorene, Anthracene, Fluoranthene, 1,2,3,6,7,8-HxCDD, 1,2,3,4,6,7,8-HpCDD, 2,3,7,8-TCDF, 1,2,3,4,7,8-HxCDF, 1,2,3,4,6,7,8-HpCDF
Bioaccumulation Potential: 50,000, 5,000, 500, 500, 500, 50,000, 500, 5,000, 50,000, 50,000, 50,000, 50,000, respectively

Sample ID: PW-13-SD
Hazardous Substances: 1,2,3,6,7,8-HxCDD, 1,2,3,4,7,8-HxCDF, 1,2,3,4,6,7,8-HpCDF
Bioaccumulation Potential: 5,000, 50,000, 50,000, respectively

Mill Creek, the McCall River, and the Pearl River are all designated fish and wildlife water bodies by the Mississippi Department of Environmental Quality, Land and Water Division (Ref. 32). No fishing is known to occur in Mill Creek adjacent to the facility (Ref. 32). However, fishing does occur on Mill Creek around the Jackson Landing Bridge (Ref. 38, p. 11).

A food chain individual value of 45 was assigned based on Level II actual contamination of a fishery (Ref. 8, Appendix A; 15, p. 33).

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Food Chain Individual Factor Value: 45

4.1.3.3.2 Population

4.1.3.3.2.1 Level I Concentrations

No Level I concentrations have been documented within the 15-mile surface water migration pathway target distance limit.

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Level I Concentrations Factor Value: 0

4.1.3.3.2.2 Level II Concentrations

Production is unknown, but greater than zero (Refs. 32; 38, p. 11).

Identity of Fishery	Annual Production Human Food Chain (Pounds)	Population Value	References
Mill Creek	> 0	0.03	3; 32; 38, p. 11
Sum of Human Food Chain Population Values: 0.03			

Note: > = Greater than

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Level II Concentrations Factor Value: 0.03

4.1.3.3.2.3 Potential Human Food Chain Contamination

The flow rate for Mill Creek is estimated to be less than 100 cubic feet per second (cfs) (Ref. 38, pp. 3, 5, 7, 13, 14). The flow rate for the McCall River is not known. The flow rate for the Pearl River is approximately 9,962 cfs (Ref. 20, p. 115). Therefore, the flow rate for the McCall River likely is less than or equal to 9,962 cfs (Refs. 3; 20, p. 115).

Identity of Fishery	Annual Production in Pounds	Type of Surface Water Body	Average Annual Flow Rate	Population Value (P_i)	Dilution Weight (D_i)	Population Value x Dilution Weight ($P_i \times D_i$)	References
Mill Creek	>0	Moderate to large stream	100 to 1,000 cfs	0.03	0.01	0.0003	1, Tables 4-13, 4-18; 3; 15, p. 39
McCall River	>0	Large stream to River	1,000 to 10,000 cfs	0.03	0.001	0.00003	1, Tables 4-13, 4-18; 3; 20, p. 115
Pearl River	>0	Large stream to River	9,992 cfs	0.03	0.001	0.00003	1, Tables 4-13; 4-18; 3; 20, p. 115
Sum of Human Food Chain Population Values x Dilution Weights ($P_i \times D_i$) =0.00036							
Population Values x Dilution Weights ($P_i \times D_i$) ÷ 10 = 0.000036							

Notes: > - Greater than
cfs - Cubic feet per second

Mill Creek (downstream of the facility), the McCall River, and the Pearl River are all used for commercial and recreational fishing (Ref. 15, pp. 18, 33; 32). From 1939 to 2000, the average annual flow rate for the Pearl River was 9,962 cfs (Ref. 20, p. 115). The annual production for the these water bodies is not known. Mill Creek, the McCall River, and the Pearl River are all fisheries; therefore, an annual production rate of greater than zero was assumed for each water body (Refs. 15, pp. 18, 33; 32).

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Potential Human Food Chain Contamination Factor Value: 0.000036

4.1.4.2 WASTE CHARACTERISTICS

4.1.4.2.1 Ecosystem Toxicity/Persistence/Bioaccumulation

Hazardous Substance	Source Number	Ecosystem Toxicity[A]	Persistence[B]	Ecosystem Toxicity/ Persistence Factor Value (Table 4-20)	References
Arsenic	1	10	1	10	1, Section 4.1.4.2.1; 2, p. BI-1
Copper	1,2	1,000	1	1,000	1, Section 4.1.4.2.1; 2, p. BI-3
Lead	1	1,000	1	1,000	1, Section 4.1.4.2.1; 2, p. BI-8
Mercury	1	10,000	1	10,000	1, Section 4.1.4.2.1; 2, p. BI-8
Nickel	1	100	1	100	1, Section 4.1.4.2.1; 2, p. BI-9
Cyanide	1	1,000	1	1,000	1, Section 4.1.4.2.1; 2, p. BI-4
Benzene	1, 2	1,000	0.4	400	1, Section 4.1.4.2.1; 2, p. BI-2
Toluene	1, 2	100	0.07	7	1, Section 4.1.4.2.1; 2, p. BI-11
Ethyl benzene	1, 2	100	0.0007	0.07	1, Section 4.1.4.2.1; 2, p. BI-6
Total xylenes	1	100	0.4	40	1, Section 4.1.4.2.1; 2, p. BI-12
Styrene	1, 2	100	0.4	40	1, Section 4.1.4.2.1; 2, p. BI-10
Isopropylbenzene (Cumene)	2	100	0.4	40	1, Section 4.1.4.2.1; 2, p. BI-3
Naphthalene	1, 2	1,000	0.4	400	1, Section 4.1.4.2.1; 2, p. BI-9

Hazardous Substance	Source Number	Ecosystem Toxicity[A]	Persistence[B]	Ecosystem Toxicity/ Persistence Factor Value (Table 4-20)	References
2-Methlynaphthalene	1, 2	100	0.4	40	1, Section 4.1.4.2.1; 2, p. BI-9
1,1-Biphenyl	1, 2	[D]	[D]	[D]	1, Section 4.1.4.2.1
Acenaphthylene	1	[D]	0.4	[D]	1, Section 4.1.4.2.1; 2, p. BI-1
Acenaphthene	1, 2	10,000	0.4	4,000	1, Section 4.1.4.2.1; 2, p. BI-1
Dibenzofuran	1, 2	1,000	1	1,000	1, Section 4.1.4.2.1; 2, p. BI-4
Fluorene	1, 2	1,000	1	1,000	1, Section 4.1.4.2.1; 2, p. BI-6
Pentachlorophenol	1	100	1	100	1, Section 4.1.4.2.1; 2, p. BI-9
Phenanthrene	1, 2	10,000	0.4	4,000	1, Section 4.1.4..1; 2, p. BI-10
Anthracene	1, 2	10,000	0.4	4,000	1, Section 4.1.4.2.1; 2, p. BI-1
Carbazole	1, 2	1,000	0.4	400	1, Section 4.1.4.2.1; 2, p. BI-2
Fluoranthene	1, 2	10,000	1	10,000	1, Section 4.1.4.2.1; 2, p. BI-2
Pyrene	1, 2	10,000	1	10,000	1, Section 4.1.4.2.1; 2, p. BI-10
Benzo(a)anthracene	1, 2	10,000	1	10,000	1, Section 4.1.4.2.1; 2, p. BI-2
Chrysene	1, 2	1,000	1	1,000	1, Section 4.1.4.2.1; 2, p. BI-3

Hazardous Substance	Source Number	Ecosystem Toxicity[A]	Persistence[B]	Ecosystem Toxicity/ Persistence Factor Value (Table 4-20)	References
Bis(2-ethylhexyl)phthalate	2	1,000	1	1,000	1, Section 4.1.4.2.1; 2, p. BI-2
Di-n-octylphthalate	2	[D]	1	[D]	1, Section 4.1.4.2.1; 2, p. BI-4
Benzo(b)fluoranthene	1	[D]	[D]	[D]	1, Section 4.1.4.2.1
Benzo(k)fluoranthene	1	[D]	1	[D]	1, Section 4.1.4.2.1; 2, p. BI-2
Benzo(a)pyrene	1	10,000	1	10,000	1, Section 4.1.4.2.1; 2, p. BI-2
Indeno(1,2,3-cd)pyrene	1	[D]	1	[D]	1, Section 4.1.4.2.1; 2, p. BI-8
Benzo(ghi)perylene	1	[D]	1	[D]	1, Section 4.1.4.2.1; 2, p. BI-2
2,3,7,8-TCDD	1	[D]	1	[D]	1, Section 4.1.4.2.1; 2, p. BI-10
1,2,3,7,8-PeCDD	1	[D]	1	[D]	1, Section 4.1.4.2.1; 2, p. BI-9
1,2,3,4,7,8-HxCDD	1, 2	[D]	1	[D]	1, Section 4.1.4.2.1; 2, p. BI-7
1,2,3,6,7,8-HxCDD	1, 2	[D]	1	[D]	1, Section 4.1.4.2.1; 2, p. BI-7
1,2,3,7,8,9-HxCDD	1, 2	[D]	1	[D]	1, Section 4.1.4.2.1; 2, p. BI-7
1,2,3,4,6,7,8-HpCDD	1, 2	[D]	1	[D]	1, Section 4.1.4.2.1; 2, p. BI-7
OCDD	1, 2	[D]	[D]	[D]	1, Section 4.1.4.2.1

Hazardous Substance	Source Number	Ecosystem Toxicity[A]	Persistence[B]	Ecosystem Toxicity/ Persistence Factor Value (Table 4-20)	References
2,3,7,8-TCDF	1, 2	[D]	1	[D]	1, Section 4.1.4.2.1; 2, p. BI-11
2,3,4,7,8-PeCDF	1, 2	[D]	1	[D]	1, Section 4.1.4.2.1; 2, p. BI-9
1,2,3,4,7,8-HxCDF	1, 2	[D]	1	[D]	1, Section 4.1.4.2.1; 2, p. BI-7
1,2,3,6,7,8-HxCDF	1, 2	[D]	0.4	[D]	1, Section 4.1.4.2.1; 2, p. BI-8
1,2,3,7,8,9-HxCDF	1	[D]	0.4	[D]	1, Section 4.1.4.2.1; 2, p. BI-8
2,3,4,6,7,8-HxCDF	1	[D]	0.4	[D]	1, Section 4.1.4.2.1; 2, p. BI-8
1,2,3,4,6,7,8-HpCDF	1, 2	[D]	1	[D]	1, Section 4.1.4.2.1; 2, p. BI-7
1,2,3,4,7,8,9-HpCDF	1, 2	[D]	0.4	[D]	1, Section 4.1.4.2.1; 2, p. BI-7
OCDF	1, 2	[D]	[D]	[D]	1, Section 4.1.4.2.1

Notes:
[A] - Ecotoxicity value for fresh water
[B] - Persistence value for rivers
[D] - Value unknown
TCDD - Tetrachlorodibenzodioxin
PeCDD - Pentachlorodibenzodioxin
HxCDD - Hexachlorodibenzodioxin
HpCDD - Heptachlorodibenzodioxin
OCDD - Octachlorodibenzodioxin
TCDF - Tetrachlorodibenzofuran
PeCDF - Pentachlorodibenzofuran
HxCDF - Hexachlorodibenzofuran
HpCDF - Heptachlorodibenzofuran
OCDF - Octachlorodibenzofuran

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Ecosystem Toxicity/Persistence Factor Value: 10,000

Hazardous Substance	Ecosystem Toxicity/ Persistence Factor Value	Bioaccumula-tion Factor Value (Section 4.1.3.2.1.2)	Ecosystem Toxicity/ Persistence/ Bioaccumulation Factor Value (Table 4-21)	References
Arsenic	10	5,000	50,000	1, Section 4.1.4.2.1; 2, p. BI-1
Copper	1,000	5,000	5×10^6	1, Section 4.1.4.2.1; 2, p. BI-3
Lead	1,000	50,000	5×10^7	1, Section 4.1.4.2.1; 2, p. BI-8
Mercury	10,000	50,000	5×10^8	1, Section 4.1.4.2.1; 2, p. BI-8
Nickel	100	500	50,000	1, Section 4.1.4.2.1; 2, p. BI-9
Cyanide	1,000	0.5	500	1, Section 4.1.4.2.1; 2, p. BI-4
Benzene	400	5,000	2×10^6	1, Section 4.1.4.2.1; 2, p. BI-2
Toluene	7	5,000	35,000	1, Section 4.1.4.2.1; 2, p. BI-11
Ethyl benzene	0.07	50	3.5	1, Section 4.1.4.2.1; 2, p. BI-6
Total xylenes	40	50	2,000	1, Section 4.1.4.2.1; 2, p. BI-12
Styrene	40	50	2,000	1, Section 4.1.4.2.1; 2, p. BI-10
Isopropylbenzene (Cumene)	40	500	20,000	1, Section 4.1.4.2.1; 2, p. BI-3
Naphthalene	400	50,000	2×10^7	1, Section 4.1.4.2.1; 2, p. BI-9

Hazardous Substance	Ecosystem Toxicity/ Persistence Factor Value	Bioaccumula-tion Factor Value (Section 4.1.3.2.1.2)	Ecosystem Toxicity/ Persistence/ Bioaccumulation Factor Value (Table 4-21)	References
2-Methylnaphthalene	40	50,000	$2x10^6$	1, Section 4.1.4.2.1; 2, p. BI-9
1,1-Biphenyl	[B]	[B]	[B]	1, Section 4.1.4.2.1
Acenaphthylene	[B]	500	[B]	1, Section 4.1.4.2.1; 2, p. BI-1
Acenaphthene	4,000	500	$2x10^6$	1, Section 4.1.4.2.1; 2, p. BI-1
Dibenzofuran	1,000	500	500,000	1, Section 4.1.4.2.1; 2, p. BI-4
Fluorene	1,000	5,000	$5x10^6$	1, Section 4.1.4.2.1; 2, p. BI-6
Pentachlorophenol	100	50,000	5×10^6	1, Section 4.1.4.2.1; 2, p. BI-9
Phenanthrene	4,000	50,000	2×10^8	1, Section 4.1.4.2.1; 2, p. BI-10
Anthracene	4,000	50,000	2×10^8	1, Section 4.1.4.2.1; 2, p. BI-1
Carbazole	400	500	200,000	1, Section 4.1.4.2.1; 2, p. BI-2
Fluoranthene	10,000	5,000	5×10^7	1, Section 4.1.4.2.1; 2, p. BI-2
Pyrene	10,000	50,000	5×10^8	1, Section 4.1.4.2.1; 2, p. BI-10
Benzo(a)anthracene	10,000	50,000	5×10^8	1, Section 4.1.4.2.1; 2, p. BI-2

Hazardous Substance	Ecosystem Toxicity/ Persistence Factor Value	Bioaccumulation Factor Value (Section 4.1.3.2.1.2)	Ecosystem Toxicity/ Persistence/ Bioaccumulation Factor Value (Table 4-21)	References
Chrysene	1,000	5,000	5×10^6	1, Section 4.1.4.2.1; 2, p. BI-3
Bis(2-ethylhexyl)phthalate	1,000	50,000	5×10^7	1, Section 4.1.4.2.1; 2, p. BI-2
Di-n-octylphthalate	[B]	50,000	[B]	1, Section 4.1.4.2.1; 2, p. BI-4
Benzo(b)fluoranthene	[B]	[B]	[B]	1, Section 4.1.4.2.1
Benzo(k)fluoranthene	[D]	50,000	[D]	1, Section 4.1.4.2.1; 2, p. BI-2
Benao(a)pyrene	10,000	50,000	5×10^8	1, Section 4.1.4.2.1; 2, p. BI-2
Indeno(1,2,3-cd)pyrene	[B]	50,000	[B]	1, Section 4.1.4.2.1; 2, p. BI-8
Benzo(ghi)perylene	[B]	50,000	[B]	1, Section 4.1.4.2.1; 2, p. BI-2
2,3,7,8-TCDD	[B]	5,000	[B]	1, Section 4.1.4.2.1; 2, p. BI-10
1,2,3,7,8-PeCDD	[B]	50,000	[B]	1, Section 4.1.4.2.1; 2, p. BI-9
1,2,3,4,7,8-HxCDD	[B]	50,000	[B]	1, Section 4.1.4.2.1; 2, p. BI-7
1,2,3,6,7,8-HxCDD	[B]	5,000	[B]	1, Section 4.1.4.2.1; 2, p. BI-7
1,2,3,7,8,9-HxCDD	[B]	50,000	[B]	1, Section 4.1.4.2.1; 2, p. BI-7

Hazardous Substance	Ecosystem Toxicity/ Persistence Factor Value	Bioaccumulation Factor Value (Section 4.1.3.2.1.2)	Ecosystem Toxicity/ Persistence/ Bioaccumulation Factor Value (Table 4-21)	References
1,2,3,4,6,7,8-HpCDD	[B]	50,000	[B]	1, Section 4.1.4.2.1; 2, p. BI-7
OCDD	[B]	[B]	[B]	1, Section 4.1.4.2.1
2,3,7,8-TCDF	[B]	50,000	[B]	1, Section 4.1.4.2.1; 2, p. BI-11
2,3,4,7,8-PeCDF	[B]	0.5	[B]	1, Section 4.1.4.2.1; 2, p. BI-9
1,2,3,4,7,8-HxCDF	[B]	50,000	[B]	1, Section 4.1.4.2.1; 2, p. BI-7
1,2,3,6,7,8-HxCDF	[B]	0.5	[B]	1, Section 4.1.4.2.1; 2, p. BI-8
1,2,3,7,8,9-HxCDF	[b]	0.5	[B]	1, Section 4.1.4.2.1; 2, p. BI-8
2,3,4,6,7,8-HxCDF	[B]	0.5	[B]	1, Section 4.1.4.2.1; 2, p. BI-8
1,2,3,4,6,7,8-HpCDF	[B]	50,000	[B]	1, Section 4.1.4.2.1; 2, p. BI-7
1,2,3,4,7,8,9-HpCDF	[B]	0.5	[B]	1, Section 4.1.4.2.1; 2, p. BI-7
OCDF	[B]	[B]	[B]	1, Section 4.1.4.2.1

Notes:
[B] - Value unknown
TCDD - Tetrachlorodibenzodioxin
PeCDD - Pentachlorodibenzodioxin
HxCDD - Hexachlorodibenzodioxin
HpCDD - Heptachlorodibenzodioxin
OCDD - Octachlorodibenzodioxin
TCDF - Tetrachlorodibenzofuran
PeCDF - Pentachlorodibenzofuran

HxCDF - Hexachlorodibenzofuran
HpCDF - Heptachlorodibenzofuran
OCDF - Octachlorodibenzofuran

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Ecosystem Toxicity/Persistence/Bioaccumulation Factor Value: 5×10^{8}

4.1.4.2.2. Hazardous Waste Quantity

Source Number	Source Hazardous Waste Quantity Value (Section 2.4.2.1.5)	Is source hazardous constituent quantity data complete? (Yes/No)
1	>0	No
2	1,380.15	No
Sum of Values: 1,380.15		

Note: > - Greater than

4.1.4.2.3. Waste Characteristics Factor Category Value

Ecosystem toxicity/persistence factor value (10,000)
X hazardous waste quantity factor value (100): 1×10^{6}

(Ecosystem toxicity/persistence [10,000] X hazardous waste quantity [100] x
Bioaccumulation potential factor value [50,000]): 5×10^{10}

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Hazardous Waste Quantity Factor Value: 100
Waste Characteristics Factor Category Value: 320

4.1.4.3 ENVIRONMENTAL THREAT - TARGETS

Level I Concentrations

No Level I concentrations have been documented.

Most Distant Level II Sample

Sample ID: PW-14-SD (November 2002)
Distance from probable point of entry: Sediment sample PW-14-SD was collected from within Palustrine forested wetlands approximately 1.9 miles downstream from PPE #1 (Refs. 3; 34; 38, pp. 3, 4, 5; 42, pp. 96, 236, 265).

4.1.4.3.1 Sensitive Environments

4.1.4.3.1.1. Level I Concentrations

No Level I concentrations have been documented.

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Level I Concentrations Factor Value: 0

Sensitive Environments

Actual contamination of a sensitive environment listed in Reference 1, Table 4-23, has not been documented.

Sensitive Environments Value: 0

Wetlands

Actual contamination at Level II concentrations has been documented. The total length of these affected wetlands is approximately 2.0 linear miles (Refs. 3; 34; 42, pp. 96, 236, 265). These Palustrine forested wetlands were measured from PPE #1 down to sediment sample PW-14-SD (Refs. 3; 34; 42, pp. 96, 236, 265).

Wetland Value: 50 (Ref. 1, Table 4-24)
Sum of Sensitive Environments Value + Wetland Value : 50

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Level II Concentrations Factor Value: 50

4.1.4.3.1.3 Potential Contamination

Sensitive Environments

No sensitive environments were identified along the surface water pathway.

Wetlands

Type of Surface Water Body	Wetlands Frontage	Wetlands Value	References
Mill Creek	3.75 miles	100	1, Table 4-24; 3; 34
McCall River/Pearl River	4.25 miles	150	1, Table 4-24; 3; 34; 35
Total Wetland Frontage: 8 miles			

Surface Water Body	Sum of Sensitive Environments Values (S_i)	Wetlands Value (W_i)	Dilution Weight (D_i)	$D_i(W_i + S_i)$
Mill Creek	0	100	0.01	1
McCall River/Pearl River	0	150	0.001	0.150

Sum of $D_i(W_i + S_i)$ = 1.150
1.150/10 = 0.115

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Potential Contamination Factor Value: 0.115